# Diploma Examinations Program

# Provincial Report
## January 1988 Administration

Alberta
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# CONTENTS


PAGE

Section 1: Purpose of the Provincial Report . . . . . 1

Section 2: The Grade 12 Diploma Examinations Program . . . . . 3

Section 3: Guidelines for Interpreting the Results of the Diploma Examinations . . . . . 5

Section 4: Summary of Results . . . . . 11

Section 5: English 30 Diploma Examination Results . . . . . 15

Section 6: English 33 Diploma Examination Results . . . . . 23

Section 7: Social Studies 30 Diploma Examination Results . . . . . 33

Section 8: Langue et Littérature 30 Diploma Examination Results . . . . . 41

Section 9: Mathematics 30 Diploma Examination Results . . . . . 49

Section 10: Biology 30 Diploma Examination Results . . . . . 55

Section 11: Chemistry 30 Diploma Examination Results . . . . . 63

Section 12: Physics 30 Diploma Examination Results . . . . . 69

Diploma Examinations Program: Provincial Report: Questionnaire . . . end page

# LIST OF TABLES


TABLE

**SECTION 4**

PAGE

1 Distribution of Student Marks in Diploma Examination Courses: January 1988 Examination Administration and January 1987 Final Course Mark . . . . . 11

**SECTION 5**

2 English 30: Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores . . . . . 15

3 English 30: Multiple-Choice and Written Response Raw Score Totals . . . . . 16

4 English 30: Diploma Examination Blueprint Part A: Written Response . . . . . 17

5 English 30: Percentage Distribution of Scores Part A: Minor Assignment (Personal Response) . . . . . 18

6 English 30: Percentage Distribution of Scores Part A: Major Assignment . . . . . 19

7 English 30: Diploma Examination Blueprint Part B: Reading (Multiple Choice) . . . . . 20

8 English 30: Raw Score Results Part B: Reading (Multiple Choice) . . . . . 21

9 English 30: Results for Individual Multiple-Choice Questions . . . . . 22

**SECTION 6**

10 English 33: Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores . . . . . 23

11 English 33: Multiple-Choice and Written Response Raw Score Totals . . . . . 24

12 English 33: Diploma Examination Blueprint Part A: Written Response . . . . . 25

13 English 33: Percentage Distribution of Scores Part A: Section I (Personal Response to Literature) . . . . 26

TABLE — SECTION 6 (continued) — PAGE

14 English 33: Percentage Distribution of Scores Part A: Section II (Functional Writing) . . . . . 27

15 English 33: Percentage Distribution of Scores Part A: Section III (Response to Visual Communication) . . 28

16 English 33: Diploma Examination Blueprint Part B: Reading (Multiple Choice) . . . . . 29

17 English 33: Raw Score Results Part B: Reading (Multiple Choice) . . . . . 30

18 English 33: Results for Individual Multiple-Choice Questions . . . . . 31

SECTION 7

19 Social Studies 30: Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores . . . . . 33

20 Social Studies 30: Multiple-Choice and Written Response Raw Score Totals . . . . . 34

21 Social Studies 30: Diploma Examination Blueprint Part A: Multiple Choice . . . . . 35

22 Social Studies 30: Raw Score Results Part A: Multiple Choice . . . . . 36

23 Social Studies 30: Results for Individual Multiple-Choice Questions . . . . . 37

24 Social Studies 30: Diploma Examination Blueprint Part B: Written Response . . . . . 38

25 Social Studies 30: Percentage Distribution of Scores Part B: Written Response . . . . . 39

SECTION 8

26 Langue et Littérature 30: Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores . . . . . 41

27 Langue et Littérature 30: Multiple-Choice and Written Response Raw Score Totals . . . . . 42

TABLE

## SECTION 8 (continued)

PAGE


28 Langue et Littérature 30: Diploma Examination Blueprint Part A: Written Response . . . . . 43

29 Langue et Littérature 30: Percentage Distribution of Scores: Part A: Minor Assignments . . . . . 44

30 Langue et Littérature 30: Percentage Distribution of Scores: Part A: Major Assignment . . . . . 45

31 Langue et Littérature 30: Diploma Examination Blueprint Part B: Reading (Multiple Choice) . . . . . 46

32 Langue et Littérature 30: Raw Score Results Part B: Reading (Multiple Choice) . . . . . 47

33 Langue et Littérature 30: Results for Individual Multiple-Choice Questions . . . . . 48


## SECTION 9


34 Mathematics 30: Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores . . . . . 49

35 Mathematics 30: Multiple-Choice and Written Response Raw Score Totals . . . . . 50

36 Mathematics 30: Diploma Examination Blueprint . . . . . 51

37 Mathematics 30: Raw Score Averages for Subtests (Reporting Categories) . . . . . 52

38 Mathematics 30: Raw Score Averages for Cognitive Levels . . . . . 52

39 Mathematics 30: Results for Individual Multiple-Choice Questions . . . . . 53

40 Mathematics 30: Distribution of Marks for Written Response Questions. . . . . 54

41 Mathematics 30: Average Marks Awarded for Written Response Questions. . . . . 54

| TABLE | SECTION 10 | PAGE |
|---|---|---|
| 42 | Biology 30: Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores | 55 |
| 43 | Biology 30: Multiple-Choice and Written Response Raw Score Totals | 56 |
| 44 | Biology 30: Diploma Examination Blueprint | 57 |
| 45 | Biology 30: Raw Score Averages for Subtests (Reporting Categories) | 58 |
| 46 | Biology 30: Raw Score Averages for Cognitive Levels | 59 |
| 47 | Biology 30: Results for Individual Multiple-Choice Questions | 60 |
| 48 | Biology 30: Distribution of Marks for Written Response Questions. | 61 |
| 49 | Biology 30: Average Marks Awarded for Written Response Questions. | 61 |
| | **SECTION 11** | |
| 50 | Chemistry 30: Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores | 63 |
| 51 | Chemistry 30: Multiple-Choice and Written Response Raw Score Totals | 64 |
| 52 | Chemistry 30: Diploma Examination Blueprint | 65 |
| 53 | Chemistry 30: Raw Score Averages for Subtests (Reporting Categories) | 66 |
| 54 | Chemistry 30: Raw Score Averages for Cognitive Levels | 66 |
| 55 | Chemistry 30: Results for Individual Multiple-Choice Questions | 67 |
| 56 | Chemistry 30: Distribution of Marks for Written Response Questions. | 68 |
| 57 | Chemistry 30: Average Marks Awarded for Written Response Questions. | 68 |

TABLE **SECTION 12** PAGE


58 Physics 30: Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores . . . . . 69

59 Physics 30: Multiple-Choice and Written Response Raw Score Totals . . . . . 70

60 Physics 30: Diploma Examination Blueprint . . . . . 71

61 Physics 30: Raw Score Averages for Subtests (Reporting Categories) . . . . . 72

62 Physics 30: Raw Score Averages for Cognitive Levels . . . . . 72

63 Physics 30: Results for Individual Multiple-Choice Questions . . . . . 73

64 Physics 30: Distribution of Marks for Written Response Questions. . . . . 74

65 Physics 30: Average Marks Awarded for Written Response Questions. . . . . 74

# SECTION 1:
# PURPOSE OF THE PROVINCIAL REPORT

Following each major administration of the diploma examinations, a *Provincial Report* of the results is prepared. Each superintendent and principal also receive a report of the examination results for their students which is parallel, in format, to the *Provincial Report*.

This *Provincial Report* is intended to provide information about the results achieved by students who wrote the January 1988 Grade 12 diploma examinations. The results reported are for all students for whom both a school-awarded mark and a diploma examination mark are available. This group comprises virtually all students who completed an examination, including students in public and private schools as well as students with mature status and correspondence students who have completed their course work. Results obtained by students with mature status who have challenged the examinations are not reported.

This *Provincial Report* is intended to supplement other Student Evaluation and Records Branch documents -- the *Diploma Examinations Program Bulletins* which are distributed in September and describe the examinations in each subject, the school and school jurisdiction reports, the examination specifications for each subject, and the examinations themselves. Information from all of these documents should enable teachers, principals, superintendents, and others to make judgments concerning student achievement at the provincial level and within schools and school jurisdictions.

Educators in each jurisdiction are encouraged to study the examination results carefully as an aid in determining the strengths and weaknesses of their programs and resources.

It is strongly recommended that educators involved in interpreting results read "Section 3, Guidelines for Interpreting the Results of Diploma Examinations," before interpreting the specific reports for their own jurisdiction, school, or instructional group.

Readers of this report are invited to respond by completing the questionnaire at the end of this booklet and sending it to the address indicated.

# SECTION 2:
# THE GRADE 12 DIPLOMA EXAMINATIONS PROGRAM

## INTRODUCTION

The Diploma Examinations Program, which is an integral part of the high school diploma requirements, is intended to certify the level of students' academic achievement in selected Grade 12 courses.

All Grade 12 students registered in Alberta are now required to write at least ONE diploma examination in either English 30 or English 33 in order to receive a high school diploma. Provisions also exist whereby students with mature status may receive credits for a Grade 12 course by writing the appropriate diploma examination without taking instruction in the course.

The Diploma Examinations Program consists of course-specific examinations that are based on the prescribed *Program of Studies for Senior High Schools* for the following Grade 12 courses:

- English 30
- English 33
- Social Studies 30
- Langue et Littérature 30
- Mathematics 30
- Biology 30
- Chemistry 30
- Physics 30

Diploma examinations in Social Studies 30, Mathematics 30, Biology 30, Chemistry 30, and Physics 30 are available in French translation on request.

The diploma examinations are administered three times per year -- in January, June, and August.

Detailed information about the Grade 12 Diploma Examinations Program is available in the *General Information Bulletin*, in the brochure entitled "Information for Students," and in the examination information bulletins published annually for each subject.

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## REQUIREMENTS FOR HIGH SCHOOL DIPLOMAS

Alberta Education issues three distinct high school diplomas.

The General High School Diploma and the Advanced High School Diploma certify that the holder has met requirements outlined in the *Junior-Senior High School Handbook*. The requirements for both of these diplomas are indicated below.

<u>The General High School Diploma</u>

To earn a General High School Diploma, a student must obtain course credit in either English 30 or English 33 and obtain 100 credits distributed over courses as specified in the *Junior-Senior High School Handbook*.

Some students who are working towards the General Diploma may wish to obtain credits in other diploma examination courses (i.e. Social Studies 30, Mathematics 30, Biology 30, Chemistry 30, Physics 30, and Langue et Littérature 30). To obtain credits in these courses, the student must also write the appropriate diploma examination regardless of the type of diploma the student wishes to receive.

## The Advanced High School Diploma

The Advanced High School Diploma certifies achievement in an academic program.

To earn an Advanced High School Diploma, a student must satisfy the current course and credit requirements for a General High School Diploma and obtain course credits in English 30, Social Studies 30, Mathematics 30, and ONE of Biology 30, Chemistry 30, or Physics 30.

When a student who has met the requirements for an Advanced High School Diploma obtains a final average of 80% or higher on the four required diploma examination courses, with not less than 65% in any one of these four required courses, this student receives an Award of Excellence. This Award of Excellence is noted on the student's Advanced High School Diploma.

When a student writes two or three of the diploma examinations in Biology 30, Chemistry 30, and Physics 30, the highest final blended mark attained is used for diploma purposes and in the calculation of the average for the Award of Excellence.

The High School Equivalency Diploma is an alternate means of certification for those individuals who have left high school. The requirements that must be met in order to earn a High School Equivalency Diploma are specified in the *Junior-Senior High School Handbook*.

## AWARDING OF COURSE CREDITS

To obtain credit in any high school course, a student must earn a final mark of 50% or better. To obtain credit in a Grade 12 diploma examination course, a student must write the appropriate diploma examination and attain a final blended mark of 50% or better. The final blended mark is made up of 50% of the mark awarded by the school and 50% of the diploma examination mark.

For example, a student taking Physics 30 might have received a mark of 45% from the school but achieved a mark of 57% on the diploma examination. This student would earn credit for Physics 30 because the final blended mark would be 51%, which is the average of the school and examination marks.

For students with mature status who do not have a school mark, or who have a school mark lower than the examination mark, the examination mark is deemed the final mark.

# SECTION 3: GUIDELINES FOR INTERPRETING THE RESULTS OF THE DIPLOMA EXAMINATIONS

## JURISDICTION, SCHOOL, AND INSTRUCTIONAL GROUP REPORTS

In addition to this *Provincial Report*, each superintendent and principal receive a report of results achieved by the students in their particular jurisdiction or school. The superintendent of a jurisdiction may request similar reports for instructional groups within schools in the jurisdiction. Usually, instructional group reports are requested by class; however, instructional group reports may be requested for other groupings of students.

Jurisdiction, school, and instructional group reports contain tables that are parallel to the major tables in this *Provincial Report*. Tables are organized by examination subject. The following statistics are included:

- letter grade distributions for school-awarded, diploma examination, and final blended marks
- averages for school-awarded, diploma examination, and final blended marks
- averages for multiple-choice questions, written response questions, and the reporting categories used in this *Provincial Report*
- the percentage of students selecting each alternative on each multiple-choice question
- individual student results for examination marks: total test, multiple choice, written response, and major reporting categories

All reported statistics are based on results attained by those students for whom both an examination mark and a school-awarded mark are available. Results obtained by students with mature status who have challenged the examinations are not included in any reported sample. Original school-awarded marks and examination marks are used; any changes due to appeals will not appear. In the event that differences exist between marks given in the reports and marks on results statements and transcripts, the marks on results statements and transcripts are to be considered the official marks.

## USE OF THE REPORTS

The reports may be used as part of the information for

- evaluating educational programs in each subject
- improving the quality of educational programs
- identifying strengths and weaknesses of the individual student, school, and jurisdiction by comparing their results with provincial results

The reports are NOT intended to be used as the basis for

- evaluating teacher performance
- comparing performance between or among schools

Administrators in each jurisdiction should apply separate locally-developed teacher, school, and school system evaluation policies to the tasks of evaluating teacher and school performance.

The information provided in the reports is factual regarding *what* has happened. The interpretation of this information -- hypothesizing *why* results are as they are -- involves many complex considerations of the factors and variables that contribute to achievement.

## FACTORS LIMITING THE INTERPRETATION OF EXAMINATION RESULTS

Educators who are interpreting results must take into account the following limitations:

1. School-awarded marks and diploma examination marks are complementary measures. The role of the examination is to provide a common measure of achievement for students throughout the province. School-awarded marks should reflect ALL important aspects of learning in a course, including those that cannot be measured by a time-limited paper and pencil test. Therefore, differences between an individual student's school-awarded mark and that student's diploma examination mark in a subject are to be expected. Any comparisons of the two types of marks should be restricted to group statistics for groups of reasonable size, and should be made with full knowledge of the differences between the two measures.

2. Jurisdiction, school, or group size will affect the importance of differences between the provincial results and results reported in jurisdiction, school, or instructional group reports.

3. Blended mark distributions *cannot* be directly compared to school-awarded mark distributions or diploma examination mark distributions.

4. Factors affecting student selection of examination courses vary from school to school. These factors must be considered when comparing school or jurisdiction marks to provincial marks:

   - Some schools may have a limited selection of courses. Students with weak academic records who, in other schools, would have selected nonexamination courses will find it necessary to take diploma examination courses for credits. These schools should adjust their expectations downward relative to the provincial mean.
   - Some schools may have a policy of encouraging students to challenge any diploma examination course, resulting in a higher than usual proportion of students taking those courses. These schools should also adjust their expectations downward relative to the provincial mean.
   - Some schools may have a policy of discouraging students with weak academic records from enrolling in particular diploma examination courses, resulting in a lower than usual proportion of students taking those courses. These schools should adjust their expectations upward relative to the provincial mean.

## FACTORS THAT MAY AFFECT STUDENT ACHIEVEMENT

There are many factors, or variables, that may contribute to student achievement. Some of these factors are:

1. Environment
   - community environment
   - school environment
   - socio-economic background
   - family circumstances

2. Student Factors
   - ability
   - attitude
   - motivation
   - aspiration
   - academic background
   - learning methods

3. Resources (availability and appropriateness)
   - programs of study
   - curriculum guides
   - resource materials
   - library services
   - current textbooks
   - references

4. Instruction
   - qualifications of teachers
   - teacher experience
   - professional development
   - teacher morale
   - teaching strategies
   - hours of instruction
   - staff turnover
   - amount of homework assigned
   - communication of teacher expectations

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## A SYSTEMATIC APPROACH FOR EFFECTIVE USE OF EXAMINATION RESULTS

Examination results can be used constructively as one means of improving the quality of education. Some steps for a systematic use of examination results are listed below:

1. Compare test results for a school or instructional group to the provincial results. Be sure that your comparisons include the following:
   - total test score
   - total multiple-choice and written response scores
   - subscale scores for multiple choice and written response (this administration as well as results over time)
   - individual multiple-choice and written response question results

2. Note any patterns, anomalies, and/or interrelationships in the results.

3. Hypothesize relationships between your observations and factors (see above) that may have had an affect on achievement.

4. Consider and plan an action that will help improve the quality of education for students.

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# AN ADMINISTRATIVE MODEL FOR THE EFFECTIVE USE OF EXAMINATION RESULTS

The following is *one* model that may be useful for adaptation by those wishing to develop a constructive system for interpreting diploma examination results. This model is based on work done by Medicine Hat School District #76.

## Basic Principles

1. It is desirable and feasible for teachers and school administrators to make use of diploma examination results in analysing the performance of their own students.

2. It is more constructive for schools to develop their own analyses, interpretations, and action plans than to have these imposed externally.

3. Factors such as those listed on page 7 should be analysed and discussed when reviewing examination results.

4. Subtest or reporting category results are usually more informative than total test scores.

5. Generalizations should be based on results from several diploma examination administrations.

6. It is neither desirable nor productive to compare the results of different schools.

7. Diploma examinations measure many of the objectives specified by the curriculum. *However, skills and concepts that are not measured by the diploma examinations are also to be taught and evaluated.*

8. Staff discussions as well as written reports are useful means of ensuring that results are appropriately interpreted and used.

## Suggested Content for Interpretations of Individual School Results

1. Subject and date of examination administration

2. Number of students who wrote the examination

3. Profile of students or groups who wrote the examination
   - patterns of course selection
   - previous performance
   - prerequisites
   - number of students repeating the course, etc.

4. Program emphases: e.g., hours of instruction, skill and content emphases

5. Instructional practices: e.g., methodology, resources, and the relationship between the program offered and the provincial curriculum

6. Program objectives not measured by the diploma examination

7. School results compared to provincial results on subtests

8. Current school results compared to those of previous administrations

9. Discussion of actual and expected subtest results, with recommended action

10. Discussion of item results, identification of common student errors, and suggestions of ways for reducing the misunderstanding that leads to these errors

11. Recommendations for the following year or semester

12. Summary and concluding comments

Suggested Reporting Structure

1. Teachers, department heads, and/or principals analyse and prepare a written report about each administration of a diploma examination.

2. Principals review and sign the report.

3. The report is shared with central office supervisory personnel.

4. The appropriate central office supervisory personnel prepare a written response to the report, with copies of the response going to the teacher, department head, and principal.

5. If possible, all involved staff meet to discuss the report and the response.

6. Reports are used to improve the program and maximize future opportunities for student success.

7. When large differences exist between expected and actual examination results, consideration should be given to performing a formal program evaluation.

8. The report for the January and June administrations could include comparisons with achievement data from Grade 10 and Grade 11 courses.

# SECTION 4: SUMMARY OF RESULTS

In Table 1, the provincial distribution of student marks in the diploma examination courses is summarized. The percentage distribution for the school-awarded mark, the January 1988 diploma examination mark, and the final blended mark achieved by students is shown for each of the A, B, C, and F grade categories. In addition, a comparison with the January 1987 diploma examination course results is provided.

Table 1
Distribution of Student Marks in Diploma Examination Courses
January 1988 Examination Administration and January 1987 Final Course Mark*

| Diploma Examination Course | January 1988 School-Awarded Mark | January 1988 Diploma Examination Mark | January 1988 Final Blended Mark | January 1987 Final Blended Mark |
|---|---|---|---|---|
| English 30 | | | N = 9 189 | N = 8 805 |
| A (80-100%) | 13.3 | 7.1 | 8.1 | 9.8 |
| B (65-79%) | 41.0 | 32.6 | 38.4 | 41.6 |
| C (50-64%) | 38.6 | 44.7 | 47.8 | 44.3 |
| F (0-49%) | 7.1 | 15.6 | 5.8 | 4.2 |
| Mean | 65.5 | 61.5 | 64.0 | 65.3 |
| Standard Deviation** | 11.7 | 12.0 | 10.7 | 10.5 |
| English 33 | | | N = 4 078 | N = 4 153 |
| A (80-100%) | 4.0 | 6.0 | 2.9 | 3.7 |
| B (65-79%) | 35.3 | 35.3 | 35.4 | 39.8 |
| C (50-64%) | 49.6 | 44.2 | 54.9 | 51.4 |
| F (0-49%) | 11.1 | 14.5 | 6.8 | 5.1 |
| Mean | 61.1 | 61.6 | 61.8 | 63.0 |
| Standard Deviation | 10.5 | 11.7 | 9.5 | 9.4 |

*The figures may be changed slightly as a result of appeals of school-awarded marks, rereads of diploma examinations, or special cases considerations.
**Standard deviation is an indication of the amount of variation in a distribution. Normally, about 34% of the population will be distributed one "standard deviation" above the mean and about 34% of the population will be distributed one "standard deviation" below the mean. To take the English 30 Diploma Examination as an example, 68% of the students who wrote the examination scored between 49.5% and 73.5%.

(Continued)

Table 1 (continued)

| Diploma Examination Course | January 1988 School-Awarded Mark | January 1988 Diploma Examination Mark | January 1988 Final Blended Mark | January 1987 Final Blended Mark |
|---|---|---|---|---|
| **Social Studies 30** | | | N = 8 561 | N = 7 767 |
| A (80-100%) | 16.0 | 12.4 | 13.1 | 13.4 |
| B (65-79%) | 38.3 | 34.6 | 37.3 | 35.6 |
| C (50-64%) | 38.8 | 34.9 | 40.9 | 42.2 |
| F (0-49%) | 6.9 | 18.1 | 8.6 | 8.9 |
| Mean | 66.0 | 62.9 | 64.8 | 64.5 |
| Standard Deviation | 12.1 | 14.1 | 12.4 | 12.4 |
| **Langue et Littérature 30** | | | N = 103 | N = 64 |
| A (80-100%) | 29.1 | 12.6 | 14.6 | 31.3 |
| B (65-79%) | 40.8 | 40.8 | 53.4 | 50.0 |
| C (50-64%) | 28.2 | 37.9 | 31.1 | 18.8 |
| F (0-49%) | 1.9 | 8.7 | 1.0 | 0.0 |
| Mean | 72.2 | 66.1 | 69.4 | 72.8 |
| Standard Deviation | 10.6 | 11.3 | 10.3 | 9.5 |
| **Mathematics 30** | | | N = 9 079 | N = 8 587 |
| A (80-100%) | 24.8 | 25.2 | 24.1 | 33.9 |
| B (65-79%) | 33.9 | 27.4 | 30.9 | 34.1 |
| C (50-64%) | 32.7 | 24.6 | 33.8 | 25.8 |
| F (0-49%) | 8.6 | 22.7 | 11.3 | 6.2 |
| Mean | 68.1 | 64.9 | 66.9 | 71.7 |
| Standard Deviation | 14.5 | 18.3 | 15.6 | 14.9 |
| **Biology 30** | | | N = 7 891 | N = 7 513 |
| A (80-100%) | 19.4 | 21.8 | 20.4 | 18.3 |
| B (65-79%) | 36.8 | 29.3 | 32.9 | 32.6 |
| C (50-64%) | 37.0 | 28.2 | 36.6 | 38.0 |
| F (0-49%) | 6.8 | 20.7 | 10.1 | 11.2 |
| Mean | 66.8 | 64.6 | 66.1 | 65.3 |
| Standard Deviation | 12.7 | 16.8 | 14.1 | 13.9 |

(Continued)

Table 1 (continued)

| Diploma Examination Course | January 1988 School-Awarded Mark | January 1988 Diploma Examination Mark | January 1988 Final Blended Mark | January 1987 Final Blended Mark |
|---|---|---|---|---|
| Chemistry 30 | | | N = 6 731 | N = 6 504 |
| A (80-100%) | 22.2 | 15.6 | 16.9 | 24.2 |
| B (65-79%) | 36.5 | 26.5 | 33.9 | 34.3 |
| C (50-64%) | 33.5 | 34.0 | 38.0 | 33.4 |
| F (0-49%) | 7.7 | 23.9 | 11.2 | 8.1 |
| Mean | 67.7 | 61.8 | 65.1 | 68.0 |
| Standard Deviation | 13.4 | 16.0 | 13.9 | 14.2 |
| Physics 30 | | | N = 3 180 | N = 2 937 |
| A (80-100%) | 26.0 | 25.0 | 24.7 | 25.9 |
| B (65-79%) | 39.9 | 30.0 | 35.8 | 37.9 |
| C (50-64%) | 28.2 | 26.6 | 31.3 | 30.4 |
| F (0-49%) | 5.9 | 18.3 | 8.2 | 5.8 |
| Mean | 69.5 | 65.8 | 68.1 | 69.5 |
| Standard Deviation | 13.0 | 16.8 | 14.1 | 13.4 |

# SECTION 5:
# ENGLISH 30 DIPLOMA EXAMINATION RESULTS

## ENGLISH 30: AVERAGES AND DISTRIBUTION OF MARKS

The English 30 Diploma Examination consists of two parts: Part A: Written Response and Part B: Reading (Multiple Choice), each worth 50% of the total examination mark.

Information in all tables contained in this section is based on the results achieved by 9 189 students.

Table 2 presents percentage distributions by letter grade for school-awarded marks, diploma examination marks, and final blended marks in English 30. Averages and standard deviations for these three measures are also presented.

Table 2
English 30
Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores

| Score (%) | School-Awarded Mark | Diploma Examination Mark | Final Blended Mark |
|---|---|---|---|
| A (80-100) | 13.3 | 7.1 | 8.1 |
| B (65-79) | 41.0 | 32.6 | 38.4 |
| C (50-64) | 38.6 | 44.7 | 47.8 |
| F (0-49) | 7.1 | 15.6 | 5.8 |
| Average (%) | 65.5 | 61.5 | 64.0 |
| Standard Deviation* | 11.7 | 12.0 | 10.7 |

*See footnote defining "standard deviation" (page 11).

Table 3 presents averages and standard deviations for the written response and multiple-choice sections of the English 30 Diploma Examination. Averages given in Table 3 are based on raw scores, which are the number of marks obtained within each section of the examination.

The total marks possible are identified for the written response and multiple-choice sections.

Table 3
English 30
Multiple-Choice and Written Response Raw Score Totals

| Examination Section | Total Marks | Weighting (%) | Average | Standard Deviation |
|---|---|---|---|---|
| Part A: Written Response* | 50 | 50 | 30.8 | 6.1 |
| Part B: Multiple Choice | 78 | 50 | 47.8 | 11.7 |

*Readers of this report should note that the design and internal weighting of reporting categories for Part A: Written Response changed in January 1988. Educators interpreting local results should take the design changes into consideration. (See Table 4 for reporting category weighting. See the *Grade 12 Diploma Examinations Bulletin: English 30 & English 33: 1987-88 School Year* for a complete explanation of the design changes.)

## ENGLISH 30: RESULTS OF PART A: WRITTEN RESPONSE

Table 4 presents the blueprint used in the development of Part A: Written Response. Part A has a total value of 50 marks and contributes 50% to the total examination mark in English 30.

Table 4 outlines the nature of the assignments, the reporting categories (scoring scales used), and the proportion of the total mark assigned to each category.

Table 4
English 30
Diploma Examination Blueprint
Part A: Written Response

| Description of the Writing Assignment | Reporting Category | Proportion of Total Mark (%) |
|---|---|---|
| Minor Assignment | | |
| The student is required to offer a personal response to the reading selection provided on the examination. | 1. Thought & Detail | 7.5 |
| | 2. Writing Skills | 7.5 |
| Major Assignment | | |
| The Major Assignment maintains a thematic connection to the Minor Assignment. The student is required to demonstrate an appreciation of literary works studied through a discussion of theme and literary techniques that support that theme. The student is also required to synthesize thoughts clearly and correctly in writing. | 1. Total Impression | 5 |
| | 2. Thought & Detail | 12.5 |
| | 3. Organization | 7.5 |
| | 4. Matters of Choice | 5 |
| | 5. Matters of Convention | 5 |
| | | 50.0 |

Table 5 presents the percentage distribution of scores (scale points) for the minor assignment of Part A: Written Response.

Results for Part A: Written Response are most clearly understood in the context of the assignments responded to by students, and in the context of the scoring descriptors. Complete scoring guides are available in the *Grade 12 Diploma Examinations Bulletin: English 30 & English 33: 1987-88 School Year*.

All schools should also have extra copies of Part A: Written Response for use in conjunction with information provided in Tables 5 and 6.

The results outlined in Tables 5 and 6 are perhaps best considered in terms of the percentage of students judged by markers to have presented work that was "Satisfactory" or above on any reporting category.

Please note that students do better on some dimensions of the task than on others. It is possible to draw conclusions about local program strengths and weaknesses by comparing local percentages of "Satisfactory" or above scores on each reporting category to the provincial averages.

Table 5
English 30
Percentage Distribution of Scores
Part A: Minor Assignment (Personal Response)

| Score (Scale Points) | Reporting Category | |
|---|---|---|
| | Thought & Detail | Writing Skills |
| 5 (Exceptional) | 2.5 | 2.9 |
| 4 (Proficient) | 27.0 | 31.2 |
| 3 (Satisfactory) | 62.8 | 57.7 |
| 2 (Limited) | 7.0 | 7.4 |
| 1 (Poor) | 0.5 | 0.7 |
| INS (Insufficient or No Response) | 0.2 | 0.2 |

In responding to the minor assignment, 92.3% of the students scored "Satisfactory" or above for Thought & Detail and 91.8% scored "Satisfactory" or above for Writing Skills.

Table 6 presents the percentage distribution of scores (scale points) for the major assignment of Part A: Written Response.

Table 6
English 30
Percentage Distribution of Scores
Part A: Major Assignment

| Score (Scale Points) | Reporting Category | | | | |
|---|---|---|---|---|---|
| | Total Impression | Thought & Detail | Organization | Matters of Choice | Matters of Convention |
| 5 (Exceptional) | 1.8 | 1.9 | 2.1 | 2.5 | 4.4 |
| 4 (Proficient) | 16.4 | 17.6 | 19.5 | 21.7 | 33.0 |
| 3 (Satisfactory) | 53.5 | 44.1 | 58.3 | 61.2 | 50.9 |
| 2 (Limited) | 26.0 | 32.7 | 18.4 | 13.1 | 10.0 |
| 1 (Poor) | 1.9 | 3.2 | 1.1 | 1.0 | 1.2 |
| INS (Insufficient or No Response) | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |

In responding to the major assignment, 71.7% of the students scored "Satisfactory" or above for Total Impression. Similar results for the other reporting categories of the major assignment are 63.6% for Thought & Detail, 79.9% for Organization, 85.4% for Matters of Choice, and 88.3% for Matters of Convention.

## ENGLISH 30: RESULTS OF PART B: READING (MULTIPLE CHOICE)

Table 7 presents the blueprint used to develop Part B: Reading (Multiple Choice). Part B normally has a value of 80 marks (one mark for each multiple-choice question) and contributes 50% to the total examination mark in English 30. Examination emphases (mark values) for each reporting category and cognitive level are included in the table. It is important to note that two multiple-choice questions were dropped from Part B: Reading (Multiple Choice) after a review of item statistics and that, for January 1988, the total mark value of Part B is 78 marks.

Classification by reporting category and cognitive level for each question included in Part B: Reading (Multiple Choice) is indicated in Table 7.

Table 7
English 30
Diploma Examination Blueprint
Part B: Reading (Multiple Choice)

| Reporting Category | Questions by Cognitive Level | | | Examination Emphasis (%) |
|---|---|---|---|---|
| | Literal Understanding | Inference and Application | Evaluation | |
| Meanings | *3,12,15,16, 39,47,73* | *1,5,8,18,20,21, 22,23,35,37,38, 41,44,50,59,61, 63,69,71,74,75, 78,80* | *32,36,62, 64,40* | 22 |
| Critical Response | | *4,7,9,10,11,13, 17,27,31,33,42, 53,54,60,66,68, 70,76* | *2,6,14,24, 30,51,55*, 57,65,79* | 17 |
| Human Experience and Values | *29* | *19,25,26,28,46, 48,49,52,67,77* | *34,43*,45, 56,58,72* | 11 |
| Examination Emphasis (%) | 5 | 32 | 13 | 50 |

*Questions 43 and 55 were deleted from the examination.

Table 8 presents the provincial results for each of the multiple-choice reporting categories. The results are given in raw score form. Reporting categories contain different numbers of items, and the items are not specifically selected to make the different categories equal in difficulty. Therefore, it is not correct to make direct comparisons of results achieved in the different categories.

Table 8
English 30
Raw Score Results
Part B: Reading (Multiple Choice)

| Reporting Category | Average | Standard Deviation |
|---|---|---|
| 1. Meanings (35 questions) | 21.1 | 5.7 |
| 2. Critical Response (27 questions) | 17.1 | 4.4 |
| 3. Human Experience and Values (16 questions) | 9.5 | 2.9 |

Table 9 on page 22 presents the percentage of students choosing each alternative (A, B, C, and D) for each multiple-choice question on Part B: Reading (Multiple Choice). The correct response (key) for each question is also identified. The results presented in Table 9 can best be used in conjunction with results presented in jurisdiction, school, and instructional group reports to interpret strengths and weaknesses of local educational programs.

Questions on Part B: Reading (Multiple Choice) ranged from those that students found to be quite difficult, such as question 45 with only 34.9% of the students answering correctly, to those that were quite easy for students, such as question 16 with 91.8% of the students answering correctly. An example of a question of average difficulty is question 5 with 63.3% of the students answering correctly.

No information is presented about questions 43 and 55 since these were dropped from the examination after a review of the examination results and item statistics.

Table 9
English 30
Results for Individual Multiple-Choice Questions*

| Item | Key | Distribution of Responses (%) A | B | C | D | Item | Key | Distribution of Responses (%) A | B | C | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D | 9.4 | 12.9 | 26.0 | 51.6 | 41 | C | 25.4 | 7.6 | 61.4 | 5.5 |
| 2 | D | 11.4 | 28.8 | 17.1 | 42.6 | 42 | D | 8.9 | 13.0 | 7.5 | 70.5 |
| 3 | B | 15.2 | 71.3 | 9.4 | 4.0 | 43 | QUESTION DELETED | | | | |
| 4 | D | 12.9 | 5.6 | 9.9 | 71.6 | 44 | B | 9.9 | 70.6 | 6.7 | 12.7 |
| 5 | C | 1.1 | 28.2 | 63.3 | 7.4 | 45 | D | 8.7 | 17.5 | 38.7 | 34.9 |
| 6 | B | 1.7 | 85.6 | 5.5 | 7.2 | 46 | B | 34.2 | 47.2 | 8.4 | 10.2 |
| 7 | C | 47.6 | 2.9 | 41.1 | 8.3 | 47 | C | 14.6 | 13.8 | 61.2 | 10.3 |
| 8 | B | 2.8 | 79.5 | 2.8 | 14.9 | 48 | B | 22.9 | 62.6 | 6.6 | 7.7 |
| 9 | D | 17.7 | 8.8 | 23.9 | 49.5 | 49 | D | 1.4 | 3.7 | 4.9 | 89.9 |
| 10 | B | 7.7 | 72.6 | 15.4 | 4.2 | 50 | C | 4.0 | 9.0 | 65.8 | 21.1 |
| 11 | A | 71.2 | 17.3 | 7.2 | 4.2 | 51 | C | 26.0 | 7.7 | 63.4 | 2.6 |
| 12 | B | 4.7 | 80.7 | 6.8 | 7.7 | 52 | A | 46.4 | 18.6 | 11.2 | 23.6 |
| 13 | C | 6.1 | 7.8 | 64.5 | 21.4 | 53 | D | 6.9 | 35.6 | 14.6 | 42.8 |
| 14 | C | 5.7 | 6.1 | 74.6 | 13.5 | 54 | A | 75.2 | 6.5 | 10.8 | 7.3 |
| 15 | B | 13.9 | 40.7 | 32.8 | 12.5 | 55 | QUESTION DELETED | | | | |
| 16 | D | 0.6 | 3.5 | 4.0 | 91.8 | 56 | B | 15.6 | 62.6 | 8.5 | 13.0 |
| 17 | A | 66.7 | 11.5 | 13.3 | 8.2 | 57 | C | 7.0 | 20.9 | 53.1 | 18.7 |
| 18 | A | 69.3 | 7.9 | 9.0 | 13.6 | 58 | D | 11.8 | 7.3 | 8.4 | 72.2 |
| 19 | C | 2.4 | 22.8 | 71.4 | 3.3 | 59 | C | 14.8 | 20.5 | 46.2 | 18.2 |
| 20 | C | 39.7 | 12.7 | 40.0 | 7.5 | 60 | A | 62.2 | 10.6 | 22.5 | 4.4 |
| 21 | C | 1.2 | 7.7 | 87.1 | 3.9 | 61 | B | 20.7 | 53.5 | 8.7 | 16.8 |
| 22 | D | 5.0 | 25.2 | 10.1 | 59.6 | 62 | C | 21.8 | 27.5 | 45.2 | 5.3 |
| 23 | C | 9.1 | 4.5 | 69.0 | 17.2 | 63 | C | 9.8 | 11.4 | 47.7 | 30.9 |
| 24 | B | 7.8 | 69.2 | 9.2 | 13.7 | 64 | A | 45.7 | 29.7 | 8.7 | 15.7 |
| 25 | A | 72.2 | 11.4 | 3.4 | 13.0 | 65 | A | 62.1 | 12.3 | 19.3 | 5.9 |
| 26 | A | 63.9 | 19.0 | 10.0 | 7.0 | 66 | A | 59.1 | 6.5 | 17.4 | 16.7 |
| 27 | B | 18.6 | 72.6 | 8.2 | 0.5 | 67 | B | 18.1 | 47.7 | 16.6 | 17.2 |
| 28 | A | 67.9 | 11.4 | 16.6 | 4.0 | 68 | A | 72.8 | 8.1 | 11.7 | 7.1 |
| 29 | B | 5.3 | 69.9 | 6.0 | 18.8 | 69 | A | 53.4 | 13.7 | 21.3 | 11.3 |
| 30 | D | 6.7 | 22.2 | 16.6 | 54.4 | 70 | A | 70.5 | 10.1 | 9.5 | 9.5 |
| 31 | D | 14.8 | 8.5 | 17.6 | 59.1 | 71 | C | 8.1 | 6.4 | 72.0 | 13.2 |
| 32 | C | 38.3 | 3.2 | 54.5 | 3.9 | 72 | C | 26.4 | 10.8 | 42.5 | 20.0 |
| 33 | A | 76.6 | 5.6 | 7.8 | 10.1 | 73 | B | 6.0 | 71.7 | 19.6 | 2.1 |
| 34 | D | 6.9 | 8.7 | 41.8 | 42.5 | 74 | B | 19.6 | 43.6 | 26.7 | 9.3 |
| 35 | A | 60.9 | 7.4 | 12.2 | 19.3 | 75 | D | 9.0 | 10.4 | 33.7 | 46.2 |
| 36 | A | 40.2 | 29.4 | 4.8 | 25.6 | 76 | D | 7.6 | 8.0 | 13.3 | 70.3 |
| 37 | B | 21.6 | 59.6 | 12.6 | 6.1 | 77 | B | 14.0 | 59.8 | 14.6 | 10.7 |
| 38 | D | 4.0 | 8.0 | 33.0 | 55.0 | 78 | B | 7.8 | 64.2 | 16.9 | 10.0 |
| 39 | D | 12.8 | 11.6 | 5.5 | 69.9 | 79 | A | 38.6 | 24.7 | 25.0 | 10.7 |
| 40 | D | 12.9 | 9.6 | 6.1 | 71.3 | 80 | A | 49.5 | 9.3 | 20.3 | 19.8 |

*The sum of the percentages for each question may be less than 100% because the No Response category is not included. This category is not greater than 1.1% for any question.

# SECTION 6:
# ENGLISH 33 DIPLOMA EXAMINATION RESULTS

## ENGLISH 33: AVERAGES AND DISTRIBUTION OF MARKS

The English 33 Diploma Examination consists of two parts: Part A: Written Response and Part B: Reading (Multiple Choice), each worth 50% of the total examination mark.

Information in all tables contained in this section is based on the results achieved by 4 078 students.

Table 10 presents percentage distributions by letter grade for school-awarded marks, diploma examination marks, and final blended marks in English 33. Averages and standard deviations for these three measures are also presented.

Table 10
English 33
Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores

| Score (%) | School-Awarded Mark | Diploma Examination Mark | Final Blended Mark |
|---|---|---|---|
| A (80-100) | 4.0 | 6.0 | 2.9 |
| B (65-79) | 35.3 | 35.3 | 35.4 |
| C (50-64) | 49.6 | 44.2 | 54.9 |
| F (0-49) | 11.1 | 14.5 | 6.8 |
| Average (%) | 61.1 | 61.6 | 61.8 |
| Standard Deviation* | 10.5 | 11.7 | 9.5 |

*See footnote defining "standard deviation" (page 11).

Table 11 presents averages and standard deviations for the written response and multiple-choice sections of the English 33 Diploma Examination. Averages given in Table 11 are based on raw scores, which are the number of marks obtained on each section of the examination.

The total marks possible are identified for the written response and multiple-choice sections.

Table 11
English 33
Multiple-Choice and Written Response Raw Score Totals

| Examination Section | Total Marks | Weighting (%) | Average | Standard Deviation |
|---|---|---|---|---|
| Part A: Written Response* | 50 | 50 | 30.9 | 5.7 |
| Part B: Multiple Choice | 69 | 50 | 42.3 | 10.2 |

*Readers of this report should note that the design and internal weighting of reporting categories for Part A: Written Response changed in January 1988. Educators interpreting local results should take the design changes into consideration. (See Table 4 for reporting category weighting. See the *Grade 12 Diploma Examinations Bulletin: English 30 & English 33: 1987-88 School Year* for a complete explanation of the design changes.)

## ENGLISH 33: RESULTS OF PART A: WRITTEN RESPONSE

Table 12 presents the blueprint used in the development of Part A: Written Response. Part A has a total value of 50 marks and contributes 50% to the total examination mark in English 33.

Table 12 outlines the nature of the assignments, the reporting categories (scoring scales used), and the proportion of the total mark assigned to each category.

Table 12
English 33
Diploma Examination Blueprint
Part A: Written Response

| Description of the Writing Assignment | Reporting Category | Proportion of Total Mark (%) |
|---|---|---|
| Personal Response to Literature<br><br>The student is required to discuss an aspect of literature from a personal perspective. | 1. Thought & Detail | 10 |
| | 2. Organization | 5 |
| | 3. Matters of Choice | 5 |
| | 4. Matters of Convention | 5 |
| Functional Writing<br><br>The assignment is functional in nature. The student is required to write within a given situation or context. | 1. Thought & Detail | 10 |
| | 2. Organization | 2.5 |
| | 3. Writing Skills | 2.5 |
| Response to Visual Communication<br><br>The writing assignment is connected to one or more photographs and/or cartoons. The student is required to write about main ideas and techniques of visual communication. | 1. Thought & Detail | 5 |
| | 2. Organization | 2.5 |
| | 3. Writing Skills | 2.5 |
| | | 50.0 |

Table 13 presents the percentage distribution of scores (scale points) for Section I of Part A: Written Response.

Results for Part A: Written Response are most clearly understood in the context of the assignments responded to by students, and in the context of the scoring descriptors. Complete scoring guides are available in the *Grade 12 Diploma Examinations Bulletin: English 30 & English 33: 1987-88 School Year.*

All schools should also have extra copies of Part A: Written Response for use in conjunction with information provided in Tables 13, 14, and 15.

The results outlined in Tables 13, 14, and 15 are perhaps best considered in terms of the percentage of students judged by markers to have presented work that was "Adequate" or above on any reporting category.

Please note that students do better on some dimensions of the task than on others. It is possible to draw conclusions about local program strengths and weaknesses by comparing local percentages of "Adequate" or above scores on each reporting category to the provincial averages.

Table 13
English 33
Percentage Distribution of Scores
Part A: Section I (Personal Response to Literature)

| Score (Scale Points) | Reporting Category | | | |
|---|---|---|---|---|
| | Thought & Detail | Organization | Matters of Choice | Matters of Convention |
| 5 (Proficient) | 2.5 | 2.3 | 2.6 | 4.5 |
| 4 (Capable) | 25.3 | 23.7 | 23.2 | 32.6 |
| 3 (Adequate) | 46.8 | 62.1 | 61.5 | 47.9 |
| 2 (Limited) | 23.8 | 11.4 | 11.5 | 13.4 |
| 1 (Poor) | 1.4 | 0.3 | 1.0 | 1.5 |
| INS (Insufficient or No Response) | 0.3 | 0.3 | 0.3 | 0.3 |

In responding to the assignment in Section I, 74.6% of the students scored "Adequate" or above for Thought & Detail. Similar results for the other reporting categories of Section I are 88.1% for Organization, 87.3% for Matters of Choice, and 85.0% for Matters of Convention.

Table 14 presents the percentage distribution of scores (scale points) for Section II of Part A: Written Response.

Table 14
English 33
Percentage Distribution of Scores
Part A: Section II (Functional Writing)

| Score (Scale Points) | Reporting Category | | |
|---|---|---|---|
| | Thought & Detail | Organization | Writing Skills |
| 5 (Proficient) | 2.1 | 2.7 | 3.4 |
| 4 (Capable) | 25.5 | 27.1 | 29.5 |
| 3 (Adequate) | 55.0 | 59.2 | 52.2 |
| 2 (Limited) | 15.5 | 10.0 | 12.9 |
| 1 (Poor) | 1.4 | 0.5 | 1.4 |
| INS (Insufficient or No Response) | 0.5 | 0.5 | 0.5 |

In responding to the assignment in Section II, 82.6% of the students scored "Adequate" or above for Thought & Detail. Similar results for the other reporting categories of Section II are 89.0% for Organization and 85.1% for Writing Skills.

Table 15 presents the percentage distribution of scores (scale points) for Section III of Part A: Written Response.

Table 15
English 33
Percentage Distribution of Scores
Part A: Section III (Response to Visual Communication)

| Score (Scale Points) | Reporting Category | | |
|---|---|---|---|
| | Thought & Detail | Organization | Writing Skills |
| 5 (Proficient) | 1.2 | 1.2 | 2.5 |
| 4 (Capable) | 13.6 | 15.1 | 21.9 |
| 3 (Adequate) | 49.5 | 63.7 | 56.3 |
| 2 (Limited) | 30.8 | 16.8 | 15.2 |
| 1 (Poor) | 2.6 | 1.0 | 1.8 |
| INS (Insufficient or No Response) | 2.3 | 2.3 | 2.3 |

In responding to the assignment in Section III, 64.3% of the students scored "Adequate" or above for Thought & Detail. Similar results for the other reporting categories of Section III are 80.0% for Organization and 80.7% for Writing Skills.

## ENGLISH 33: RESULTS OF PART B: READING (MULTIPLE CHOICE)

Table 16 presents the blueprint used to develop Part B: Reading (Multiple Choice). Part B normally has a value of 70 marks (one mark for each multiple-choice question) and contributes 50% to the total examination mark in English 33. Examination emphases (mark values) for each reporting category and cognitive level are included in the table. It is important to note that one multiple-choice question was dropped from Part B: Reading (Multiple Choice) after a review of item statistics and that, for January 1988, the total mark value of Part B is 69 marks.

Classification by reporting category and cognitive level for each question included in Part B: Reading (Multiple Choice) is indicated in Table 16.

Table 16
English 33
Diploma Examination Blueprint
Part B: Reading (Multiple Choice)

| Reporting Category | Questions by Cognitive Level | | | Examination Emphasis (%) |
|---|---|---|---|---|
| | Literal Understanding | Inference and Application | Evaluation | |
| Meanings | *2,42,43,46* | *5,6,7,8,9,10, 11,12,18,20,27, 47,48,50,51,55, 57,65,66,69,70* | *23,25,45, 68* | 21 |
| Relationships of Form and Content | | *4,16,17,19,21, 22,26,44,52,53, 64* | *24,49,54* | 10 |
| Human Experience and Values | | *1,3,13,14,15, 41,59,61,63* | *56,58,60, 62,67* | 10 |
| Life Skills | *30,31* | *29,32,34,36,39, 40** | *28,33,35, 37,38* | 9 |
| Examination Emphasis (%) | 4 | 34 | 12 | 50 |

*Question 40 was deleted from the examination.

Table 17 presents the provincial results for each of the multiple-choice reporting categories. The results are given in raw score form. Reporting categories contain different numbers of items, and the items are not specifically selected to make the different categories equal in difficulty. Therefore, it is not correct to make direct comparisons of results achieved in the different categories.

Table 17
English 33
Raw Score Results
Part B: Reading (Multiple Choice)

| Reporting Category | Average | Standard Deviation |
|---|---|---|
| 1. Meanings (29 questions) | 18.9 | 4.7 |
| 2. Relationships: Form and Content (14 questions) | 8.5 | 2.7 |
| 3. Human Experience and Values (14 questions) | 8.8 | 2.6 |
| 4. Life Skills (12 questions) | 6.1 | 2.2 |

Table 18 on page 31 presents the percentage of students choosing each alternative (A, B, C, and D) for each multiple-choice question on Part B: Reading (Multiple Choice). The correct response (key) for each question is also identified. The results presented in Table 18 can best be used in conjunction with results presented in jurisdiction, school, and instructional group reports to interpret strengths and weaknesses of local educational programs.

Questions on Part B: Reading (Multiple Choice) ranged from those that students found to be quite difficult, such as question 36 with only 31.3% of the students answering correctly, to those that were quite easy for students, such as question 3 with 95.5% of the students answering correctly. An example of a question of average difficulty is question 11 with 62.3% of the students answering correctly.

No information is presented about question 40 since it was dropped from the examination after a review of the examination results and item statistics.

Table 18
English 33
Results for Individual Multiple-Choice Questions*

| Item | Key | Distribution of Responses (%) A | B | C | D | Item | Key | Distribution of Responses (%) A | B | C | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D | 6.5 | 5.7 | 15.1 | 72.6 | 36 | C | 9.6 | 10.6 | 31.3 | 48.4 |
| 2 | A | 61.0 | 19.0 | 8.2 | 11.7 | 37 | A | 71.4 | 3.6 | 23.3 | 1.7 |
| 3 | B | 0.3 | 95.5 | 1.7 | 2.6 | 38 | C | 15.2 | 11.6 | 66.2 | 6.9 |
| 4 | D | 3.2 | 5.2 | 20.3 | 71.3 | 39 | B | 19.8 | 44.4 | 20.2 | 15.6 |
| 5 | C | 4.2 | 6.0 | 88.8 | 1.0 | 40 | QUESTION DELETED | | | | |
| 6 | C | 4.3 | 1.3 | 84.4 | 10.0 | 41 | A | 67.4 | 20.8 | 4.4 | 7.2 |
| 7 | C | 8.3 | 5.0 | 81.5 | 5.2 | 42 | D | 27.8 | 7.1 | 12.9 | 52.1 |
| 8 | B | 7.8 | 83.3 | 5.3 | 3.6 | 43 | C | 7.8 | 4.9 | 79.1 | 8.0 |
| 9 | A | 69.2 | 27.6 | 1.4 | 1.8 | 44 | D | 3.8 | 6.0 | 20.7 | 69.4 |
| 10 | B | 0.7 | 71.9 | 15.3 | 12.2 | 45 | A | 42.4 | 34.6 | 18.1 | 4.8 |
| 11 | A | 62.3 | 1.6 | 6.0 | 30.0 | 46 | D | 18.2 | 6.5 | 19.2 | 56.0 |
| 12 | B | 1.6 | 71.2 | 12.7 | 14.4 | 47 | C | 6.0 | 37.3 | 52.4 | 4.1 |
| 13 | B | 1.2 | 90.6 | 4.2 | 3.9 | 48 | D | 15.8 | 4.8 | 9.2 | 70.0 |
| 14 | D | 3.9 | 6.7 | 25.2 | 64.2 | 49 | D | 17.5 | 15.3 | 17.9 | 49.1 |
| 15 | A | 50.9 | 3.6 | 32.8 | 12.6 | 50 | A | 70.4 | 9.1 | 8.0 | 12.3 |
| 16 | B | 14.6 | 57.0 | 24.8 | 3.6 | 51 | B | 5.3 | 79.4 | 9.9 | 5.3 |
| 17 | D | 14.4 | 8.6 | 6.2 | 70.8 | 52 | D | 8.4 | 32.9 | 13.1 | 45.4 |
| 18 | B | 7.4 | 79.0 | 8.0 | 5.4 | 53 | D | 21.9 | 20.9 | 18.2 | 38.7 |
| 19 | D | 14.6 | 10.8 | 3.5 | 70.9 | 54 | B | 8.2 | 55.4 | 22.9 | 13.3 |
| 20 | C | 5.8 | 18.4 | 66.5 | 9.3 | 55 | C | 16.8 | 10.7 | 63.3 | 8.7 |
| 21 | D | 6.5 | 17.2 | 9.2 | 67.1 | 56 | A | 45.6 | 28.9 | 6.4 | 18.8 |
| 22 | D | 3.5 | 16.6 | 15.7 | 64.2 | 57 | B | 6.5 | 81.4 | 6.1 | 5.5 |
| 23 | B | 21.7 | 60.1 | 11.5 | 6.7 | 58 | D | 10.6 | 7.5 | 16.5 | 65.0 |
| 24 | D | 11.8 | 9.0 | 24.4 | 54.9 | 59 | D | 8.2 | 6.0 | 20.7 | 64.7 |
| 25 | D | 15.4 | 29.9 | 10.6 | 44.0 | 60 | D | 16.1 | 13.0 | 17.4 | 52.9 |
| 26 | D | 14.6 | 5.4 | 19.7 | 60.3 | 61 | C | 11.3 | 8.8 | 58.3 | 21.1 |
| 27 | A | 47.9 | 13.1 | 7.9 | 31.2 | 62 | D | 30.0 | 13.0 | 14.9 | 41.6 |
| 28 | C | 12.0 | 27.6 | 57.0 | 3.3 | 63 | D | 15.4 | 25.3 | 19.9 | 38.8 |
| 29 | A | 46.6 | 21.0 | 16.8 | 15.5 | 64 | C | 6.2 | 6.4 | 76.4 | 10.3 |
| 30 | A | 58.9 | 5.0 | 11.4 | 24.7 | 65 | C | 10.0 | 17.7 | 53.3 | 18.2 |
| 31 | D | 42.8 | 20.7 | 14.8 | 21.5 | 66 | B | 30.6 | 37.6 | 17.2 | 13.7 |
| 32 | D | 6.4 | 7.4 | 23.1 | 63.0 | 67 | B | 8.9 | 70.2 | 12.1 | 8.0 |
| 33 | B | 8.9 | 47.6 | 27.3 | 16.0 | 68 | D | 6.4 | 5.2 | 12.5 | 74.9 |
| 34 | A | 55.1 | 19.5 | 14.3 | 11.0 | 69 | D | 13.1 | 16.0 | 9.4 | 60.5 |
| 35 | A | 54.8 | 15.0 | 19.3 | 10.7 | 70 | D | 15.7 | 12.6 | 12.8 | 57.9 |

*The sum of the percentages for each question may be less than 100% because the No Response category is not included. This category is not greater than 1.0% for any question.

# SECTION 7:
# SOCIAL STUDIES 30 DIPLOMA EXAMINATION RESULTS

## SOCIAL STUDIES 30: AVERAGES AND DISTRIBUTION OF MARKS

The Social Studies 30 Diploma Examination consists of multiple-choice questions (worth 70% of the total examination mark) and a written response question (worth 30% of the total examination mark.)

Information in all tables contained in this section is based on the results achieved by 8 561 students.

Table 19 presents percentage distributions by letter grade for school-awarded marks, diploma examination marks, and final blended marks in Social Studies 30. Averages and standard deviations for these three measures are also presented.

Table 19
Social Studies 30
Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores

| Score (%) | School-Awarded Mark | Diploma Examination Mark | Final Blended Mark |
|---|---|---|---|
| A (80-100) | 16.0 | 12.4 | 13.1 |
| B (65-79) | 38.3 | 34.6 | 37.3 |
| C (50-64) | 38.8 | 34.9 | 40.9 |
| F (0-49) | 6.9 | 18.1 | 8.6 |
| Average (%) | 66.0 | 62.9 | 64.8 |
| Standard Deviation* | 12.1 | 14.1 | 12.4 |

*See footnote defining "standard deviation (page 11).

Table 20 presents averages and standard deviations for the multiple-choice and written response sections of the Social Studies 30 Diploma Examination. Averages given in Table 20 are based on raw scores, which are the number of marks obtained on each section of the examination.

The total marks possible are identified for the multiple-choice and written response sections.

Differences between the total Social Studies 30 Diploma Examination average reported in Table 19 and examination section averages reported in Table 20 are due to rounding.

Table 20
Social Studies 30
Multiple-Choice and Written Response Raw Score Totals

| Examination Section | Total Marks | Weighting (%) | Average | Standard Deviation |
|---|---|---|---|---|
| Written Response | 30 | 30 | 16.3 | 4.6 |
| Multiple Choice | 69 | 70 | 45.7 | 10.8 |

## SOCIAL STUDIES 30: RESULTS OF PART A: MULTIPLE CHOICE

Table 21 presents the blueprint used in the development of Part A: Multiple Choice. Part A normally has a total value of 70 marks and contributes 70% to the total examination mark in Social Studies 30. Examination emphases (mark values) for each reporting category (content and process categories) are included in the table. It is important to note that one multiple-choice question was dropped from Part A: Multiple Choice after a review of item statistics and that, for January 1988, the total mark value of Part A is 69 marks.

Classification by reporting category (content and process categories) for each question included in Part A: Multiple Choice is indicated in Table 21.

Table 21
Social Studies 30
Diploma Examination Blueprint
Part A: Multiple Choice

| Content Category | Questions by Process Category* | | | | | Examination Emphasis (%) |
|---|---|---|---|---|---|---|
| | Recall & Comp. | Inquiry Skills A | Inquiry Skills B | Inquiry Skills C | Valuing Skills | |
| Value Concepts | | | | | | |
| competing values<br>value positions<br>- Topic A<br>- Topic B | 29,30<br>64,69 | | | | 4,14<br>46,55 | 8 |
| Political & Economic Systems<br>facts, concepts, generalizations | 1,2,3,9,<br>10,11,12,<br>13,20,21,<br>23,31,32,<br>33,34,35 | 18,24,<br>25 | 5,6,7,<br>8,15,19,<br>22,26,27 | 16,17,<br>28 | | 31 |
| Co-operation & Conflict Among States<br>facts, concepts, generalizations | 36,37,38<br>39,42,43<br>44,58,59,<br>60,61,62<br>63,65,66<br>68 | 45,47,<br>50 | 40,41,48,<br>49,51,52,<br>53**,54,<br>70 | 56,57,<br>67 | | 31 |
| Examination Emphasis (%) | 36 | 6 | 18 | 6 | 4 | 70 |

*Inquiry Skills A -- Identify and focus on the issue and formulate research questions. Inquiry Skills B -- Gather, organize, analyze, evaluate, and synthesize data. Inquiry Skills C -- Resolve the issue, apply the decision, and evaluate the decision, process, and action.
**Question 53 was deleted from the examination.

Table 22 presents the provincial results for each of the multiple-choice reporting categories. The results are given in raw score form. Reporting categories contain different numbers of items, and the items are not specifically selected to make the different categories equal in difficulty. Therefore, it is not correct to make direct comparisons of results achieved in the different categories.

Table 22
Social Studies 30
Raw Score Results
Part A: Multiple Choice

| Reporting Category | Average | Standard Deviation |
|---|---|---|
| 1. Recall & Comprehension (32 questions) | 21.4 | 5.3 |
| 2. Inquiry Skills: Identify Issue (6 questions) | 4.0 | 1.4 |
| 3. Inquiry Skills: Gather & Use Data (17 questions) | 10.6 | 3.0 |
| 4. Inquiry Skills: Resolve & Decide (6 questions) | 4.1 | 1.5 |
| 5. Valuing (8 questions)* | 5.6 | 1.6 |
| 6. Political & Economic Systems (35 questions) | 23.0 | 5.7 |
| 7. Co-operation & Conflict (34 questions) | 22.7 | 5.9 |

*Recall and Comprehension questions in the Value Concepts category in Table 21 are included in Reporting Category 5 (Valuing).

Table 23 on page 37 presents the percentage of students choosing each alternative (A, B, C, and D) for each multiple-choice question on Part A: Multiple Choice. The correct response (key) for each question is also identified. The results presented in Table 23 can best be used in conjunction with results presented in jurisdiction, school, and instructional group reports to interpret strengths and weaknesses of local educational programs.

Questions on Part A: Multiple Choice ranged from those that students found to be quite difficult, such as question 52 with only 35.5% of the students answering correctly, to those that were quite easy for students, such as question 35 with 89.2% of the students answering correctly. An example of a question of average difficulty is question 43 with 65.7% of the students answering correctly.

No information is presented about question 53 since it was dropped from the examination after a review of the examination results and item statistics.

Table 23
Social Studies 30
Results for Individual Multiple-Choice Questions*

| Item | Key | Distribution of Responses (%) A | B | C | D | Item | Key | Distribution of Responses (%) A | B | C | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D | 7.3 | 3.0 | 7.2 | 82.4 | 36 | C | 4.8 | 4.6 | 59.7 | 30.9 |
| 2 | A | 53.2 | 13.7 | 24.2 | 8.7 | 37 | D | 20.1 | 6.9 | 17.5 | 55.4 |
| 3 | C | 8.2 | 31.2 | 49.9 | 10.7 | 38 | C | 3.5 | 6.2 | 77.4 | 12.9 |
| 4 | D | 5.1 | 15.8 | 3.6 | 75.4 | 39 | D | 21.4 | 11.0 | 5.6 | 62.0 |
| 5 | D | 40.5 | 13.5 | 9.9 | 36.0 | 40 | B | 11.2 | 82.7 | 4.1 | 2.0 |
| 6 | D | 12.0 | 14.8 | 27.8 | 45.3 | 41 | D | 1.6 | 13.1 | 5.5 | 79.7 |
| 7 | C | 9.1 | 6.1 | 81.7 | 3.0 | 42 | D | 6.3 | 19.5 | 31.1 | 43.1 |
| 8 | C | 10.9 | 18.6 | 69.2 | 1.2 | 43 | B | 12.4 | 65.7 | 12.8 | 9.0 |
| 9 | A | 59.2 | 13.2 | 10.9 | 16.6 | 44 | C | 6.9 | 7.9 | 74.9 | 10.2 |
| 10 | A | 63.1 | 9.0 | 9.2 | 18.6 | 45 | C | 21.7 | 28.7 | 48.6 | 1.0 |
| 11 | B | 7.2 | 86.9 | 4.3 | 1.6 | 46 | A | 49.9 | 18.3 | 22.5 | 9.2 |
| 12 | C | 12.8 | 12.1 | 58.5 | 16.6 | 47 | C | 2.5 | 11.3 | 70.5 | 15.7 |
| 13 | D | 22.4 | 8.8 | 22.1 | 46.5 | 48 | A | 70.0 | 11.5 | 10.3 | 8.2 |
| 14 | D | 9.2 | 14.9 | 7.9 | 67.9 | 49 | A | 52.1 | 4.6 | 7.1 | 36.2 |
| 15 | B | 20.4 | 76.0 | 3.3 | 0.3 | 50 | B | 4.9 | 71.4 | 12.7 | 11.0 |
| 16 | C | 7.2 | 8.2 | 79.7 | 4.9 | 51 | A | 71.2 | 6.6 | 11.5 | 10.7 |
| 17 | A | 64.1 | 7.2 | 19.7 | 8.9 | 52 | D | 21.4 | 10.2 | 32.8 | 35.5 |
| 18 | C | 6.6 | 3.2 | 79.1 | 11.0 | 53 | QUESTION DELETED | | | | |
| 19 | D | 6.7 | 11.8 | 21.6 | 59.7 | 54 | C | 13.6 | 18.0 | 62.9 | 5.4 |
| 20 | C | 4.0 | 3.2 | 77.4 | 15.3 | 55 | A | 80.6 | 6.9 | 5.7 | 6.6 |
| 21 | A | 81.1 | 5.2 | 3.4 | 10.2 | 56 | D | 20.9 | 7.4 | 12.4 | 59.2 |
| 22 | B | 27.8 | 38.5 | 17.3 | 16.2 | 57 | A | 85.3 | 3.2 | 8.5 | 3.0 |
| 23 | C | 17.0 | 13.4 | 57.5 | 12.0 | 58 | A | 86.2 | 7.4 | 2.3 | 4.1 |
| 24 | B | 17.0 | 73.3 | 6.8 | 2.8 | 59 | B | 27.3 | 50.5 | 6.8 | 15.4 |
| 25 | B | 22.0 | 60.8 | 13.6 | 3.5 | 60 | A | 75.2 | 10.0 | 4.8 | 9.9 |
| 26 | A | 53.5 | 19.6 | 23.1 | 3.7 | 61 | D | 8.2 | 5.7 | 4.6 | 81.5 |
| 27 | D | 6.2 | 14.0 | 2.1 | 77.5 | 62 | A | 75.0 | 6.5 | 8.7 | 9.7 |
| 28 | B | 25.3 | 64.5 | 5.9 | 4.2 | 63 | A | 71.9 | 3.5 | 11.9 | 12.6 |
| 29 | B | 4.8 | 84.3 | 5.4 | 5.5 | 64 | A | 81.4 | 5.7 | 10.8 | 2.0 |
| 30 | C | 32.5 | 2.5 | 62.2 | 2.8 | 65 | B | 11.5 | 70.0 | 15.5 | 2.9 |
| 31 | C | 35.8 | 8.4 | 37.1 | 18.5 | 66 | D | 3.5 | 20.8 | 6.3 | 69.3 |
| 32 | B | 5.5 | 74.6 | 14.0 | 5.8 | 67 | D | 13.0 | 9.9 | 24.8 | 52.1 |
| 33 | A | 77.6 | 7.2 | 7.0 | 8.0 | 68 | D | 12.8 | 12.3 | 8.0 | 66.8 |
| 34 | D | 18.0 | 6.0 | 18.7 | 57.2 | 69 | B | 20.0 | 56.0 | 11.7 | 12.2 |
| 35 | B | 1.7 | 89.2 | 1.8 | 7.3 | 70 | A | 70.8 | 14.0 | 5.9 | 9.2 |

*The sum of the percentages for each question may be less than 100% because the No Response category is not included. This category is not greater than 0.2% for any question.

## SOCIAL STUDIES 30: RESULTS OF PART B: WRITTEN RESPONSE

Table 24 presents the blueprint used to develop Part B: Written Response. Part B has a total value of 30 marks and contributes 30% to the total examination mark in Social Studies 30. Table 24 outlines the nature of the assignment, the reporting categories (scoring scales used), and the proportion of the total mark assigned to each category.

Table 24
Social Studies 30
Diploma Examination Blueprint
Part B: Written Response

| Description of the Writing Assignment | Reporting Category | Proportion of Total Mark (%) |
|---|---|---|
| The student is required to write one complete and unified essay in which the student integrates steps of the inquiry process by defending a position on a given issue. | 1. Description of value positions | 10 |
| | 2. Defense of position | 10 |
| | 3. Description of examples or case studies | 5 |
| | 4. Quality of language and expression | 5 |
| | | 30 |

Table 25 presents the percentage distribution of scores (scale points) for the writing assignment of Part B: Written Response.

Results for Part B: Written Response are most clearly understood in the context of the assignments responded to by students, and in the context of the scoring descriptors. Complete scoring guides are available in the *Grade 12 Diploma Examinations Bulletin: Social Studies 30: 1987-88 School Year.*

All schools should also have extra copies of the Social Studies 30 Diploma Examination for use in conjunction with information provided in Table 25.

The results outlined in Table 25 are perhaps best considered in terms of the percentage of students judged by markers to have presented work that was "Satisfactory" or above on any reporting category.

Please note that students do better on some dimensions of the task than on others. It is possible to draw conclusions about local program strengths and weaknesses by comparing local percentages of "Satisfactory" or above scores on each reporting category to the provincial averages.

Table 25
Social Studies 30
Percentage Distribution of Scores
Part B: Written Response

| Score (Scale Points) | Reporting Category | | | |
|---|---|---|---|---|
| | Description of Value Positions | Defense of Position | Description of Examples | Quality of Expression |
| 5 (Exceptional) | 1.8 | 2.0 | 1.9 | 2.6 |
| 4 (Proficient) | 14.0 | 15.8 | 13.2 | 20.9 |
| 3 (Satisfactory) | 36.4 | 44.2 | 37.4 | 59.5 |
| 2 (Limited) | 32.9 | 34.2 | 36.6 | 16.0 |
| 1 (Poor) | 14.3 | 3.7 | 10.1 | 0.9 |
| 0 (Insufficient or No Response) | 0.6 | 0.1 | 0.6 | 0.1 |

In responding to the writing assignment, 52.2% of the students scored "Satisfactory" or above for Description of Value Positions. Similar results for the other reporting categories of the writing assignment are 62.0% for Defense of Position, 52.5% for Description of Examples or Case Studies, and 83.0% for Quality of Language and Expression.

# SECTION 8:
# LANGUE ET LITTÉRATURE 30 DIPLOMA EXAMINATION RESULTS

## LANGUE ET LITTÉRATURE 30: AVERAGES AND DISTRIBUTION OF MARKS

The Langue et Littérature 30 Diploma Examination consists of two parts: Part A: Written Response and Part B: Reading (Multiple Choice), each worth 50% of the total examination mark.

Information in all tables contained in this section is based on the results achieved by 103 students.

Table 26 presents percentage distributions by letter grade for school-awarded marks, diploma examination marks, and final blended marks in Langue et Littérature 30. Averages and standard deviations for these three measures are also presented.

Table 26
Langue et Littérature 30
Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores

| Score (%) | School-Awarded Mark | Diploma Examination Mark | Final Blended Mark |
|---|---|---|---|
| A (80-100) | 29.1 | 12.6 | 14.6 |
| B (65-79) | 40.8 | 40.8 | 53.4 |
| C (50-64) | 28.2 | 37.9 | 31.1 |
| F (0-49) | 1.9 | 8.7 | 1.0 |
| Average (%) | 72.2 | 66.1 | 69.4 |
| Standard Deviation* | 10.6 | 11.3 | 10.3 |

*See footnote defining "standard deviation" (page 11).

Table 27 presents averages and standard deviations for the written response and multiple-choice sections of the Langue et Littérature 30 Diploma Examination. Averages given in Table 27 are based on raw scores, which are the number of marks obtained on each section of the examination.

The total marks possible are identified for the written response and multiple-choice sections.

Table 27
Langue et Littérature 30
Multiple-Choice and Written Response Raw Score Totals

| Examination Section | Total Marks | Weighting (%) | Average | Standard Deviation |
|---|---|---|---|---|
| Part A: Written Response | 50 | 50 | 34.5 | 6.1 |
| Part B: Multiple Choice | 78 | 50 | 49.3 | 10.4 |

## LANGUE ET LITTÉRATURE 30: RESULTS OF PART A: WRITTEN RESPONSE

Table 28 presents the blueprint used in the development of Part A: Written Response. Part A has a total value of 50 marks and contributes 50% to the total examination mark in Langue et Littérature 30. Table 28 outlines the nature of the assignments, the reporting categories (scoring scales used), and the proportion of the total mark assigned to each category.

Table 28
Langue et Littérature 30
Diploma Examination Blueprint
Part A: Written Response

| Description of the Writing Assignment | Reporting Category | Proportion of Total Mark (%) |
|---|---|---|
| Minor Assignment | | |
| For both minor assignments, students are given a personal situation or context in which they are asked to develop an argument or to present information. | 1. Content | 15 |
| | 2. Writing Skills | 5 |
| Major Assignment | | |
| The major assignment sets a specific writing task. However, the student chooses relevant details (examples, illustrations) from literature studied in Langue et Littérature. The writing assignment is related to a brief reading selection given in the exam. The student is required to understand literal and implied meanings and to synthesize thoughts clearly and correctly in writing. | 1. Total Impression | 5 |
| | 2. Content | 10 |
| | 3. Organization | 5 |
| | 4. Style | 5 |
| | 5. Matters of Convention | 5 |
| | | 50 |

Table 29 presents the percentage distribution of scores (scale points) for the minor assignments of Part A: Written Response.

Results for Part A: Written Response are most clearly understood in the context of the assignments responded to by students, and in the context of the scoring descriptors. Complete scoring guides are available in the *Grade 12 Diploma Examinations Bulletin: Langue et Littérature: 1987-88 School Year.*

All schools should also have extra copies of Part A: Written Response for use in conjunction with information provided in Tables 29 and 30.

The results outlined in Tables 29 and 30 are perhaps best considered in terms of the percentage of students judged by markers to have presented work that was "Satisfactory" or above on any reporting category.

Please note that students do better on some dimensions of the task than on others. It is possible to draw conclusions about local program strengths and weaknesses by comparing local percentages of "Satisfactory" or above scores on each reporting category to the provincial averages.

Table 29
Langue et Littérature 30
Percentage Distribution of Scores
Part A: Minor Assignments

| Score (Scale Points) | Minor Assignment 1 Reporting Category | | Minor Assignment 2 Reporting Category | |
|---|---|---|---|---|
| | Content | Writing Skills | Content | Writing Skills |
| 5 (Exceptional) | 6.8 | 8.7 | 8.7 | 5.8 |
| 4 (Proficient) | 44.7 | 27.2 | 41.7 | 23.3 |
| 3 (Satisfactory) | 40.8 | 60.2 | 37.9 | 66.0 |
| 2 (Limited) | 6.8 | 3.9 | 11.7 | 4.9 |
| 1 (Poor) | 1.0 | - | - | - |
| INS (Insufficient or No Response) | - | - | - | - |

In responding to Minor Assignment 1, 92.3% of the students scored "Satisfactory" or above for Content, and 96.1% scored "Satisfactory" or above for Writing Skills. In responding to Minor Assignment 2, 88.3% of the students scored "Satisfactory" or above for Content, and 95.1% scored "Satisfactory" or above for Writing Skills.

Table 30 presents the percentage distribution of scores (scale points) for the major assignment of Part A: Written Response.

Table 30
Langue et Littérature 30
Percentage Distribution of Scores
Part A: Major Assignment

| Score (Scale Points) | Reporting Category | | | | |
|---|---|---|---|---|---|
| | Total Impression | Content | Organization | Style | Matters of Convention |
| 5 (Exceptional) | 8.7 | 8.7 | 8.7 | 6.8 | 4.9 |
| 4 (Proficient) | 33.0 | 32.0 | 39.8 | 33.0 | 28.2 |
| 3 (Satisfactory) | 49.5 | 48.5 | 44.7 | 56.3 | 60.2 |
| 2 (Limited) | 8.7 | 10.7 | 6.8 | 3.9 | 6.8 |
| 1 (Poor) | - | - | - | - | - |
| INS (Insufficient or No Response) | - | - | - | - | - |

In responding to the major assignment, 91.2% of the students scored "Satisfactory" or above for Total Impression. Similar results for the other reporting categories of the major assignment are 89.2% for Content, 93.2% for Organization, 96.1% for Style, and 93.3% for Matters of Convention.

## LANGUE ET LITTÉRATURE 30: RESULTS OF PART B: READING (MULTIPLE CHOICE)

Table 31 presents the blueprint used to develop Part B: Reading (Multiple Choice). Part B normally has a value of 80 marks (one mark for each multiple-choice question) and contributes 50% to the total examination mark in Langue et Littérature 30. Examination emphases (mark values) for each reporting category and cognitive level are included in the table. It is important to note that two multiple-choice questions were dropped from Part B: Reading (Multiple Choice) after a review of item statistics and that, for January 1988, the total mark value of Part B is 78 marks.

Classification by reporting category and cognitive level for each question included in Part B: Reading (Multiple Choice) is indicated in Table 31.

Table 31
Langue et Littérature 30
Diploma Examination Blueprint
Part B: Reading (Multiple Choice)

| Reporting Category | Questions by Cognitive Level | | | Examination Emphasis (%) |
|---|---|---|---|---|
| | Literal Understanding | Inference and Application | Evaluation | |
| Understanding (Content) | *21,25,30, 32,41,60* | *1,2,4,8,9,12, 13,14,17,31,38, 39*,40,43,73, 74,77,78,79,80* | *11,29* | 17.5 |
| Critical Response (Form) | *5,50,62,67, 76* | *7,22,23,34,36, 37,42,46,51,53, 55,56,61,68,69, 75* | *33,35,54* | 15.0 |
| Interpretation (Human values and experiences) | | *16,19,20,26,28, 45,48,52,57,58, 59,63*,64,65, 66,70,71,72* | *3,6,10,15, 18,24,27, 44,47,49* | 17.5 |
| Examination Emphasis (%) | 7 | 34 | 9 | 50.0 |

*Questions 39 and 63 were deleted from the examination.

Table 32 presents the provincial results for each of the multiple-choice reporting categories. The results are given in raw score form. Reporting categories contain different numbers of items, and the items are not specifically selected to make the different categories equal in difficulty. Therefore, it is not correct to make direct comparisons of results achieved in the different categories.

Table 32
Langue et Littérature 30
Raw Score Results
Part B: Reading (Multiple Choice)

| Reporting Category | Average | Standard Deviation |
|---|---|---|
| 1. Understanding (27 questions) | 17.7 | 4.2 |
| 2. Critical Response (24 questions) | 15.4 | 3.4 |
| 3. Interpretation (27 questions) | 16.2 | 4.2 |

Table 33 on page 48 presents the percentage of students choosing each alternative (A, B, C, and D) for each multiple-choice question on Part B: Reading (Multiple Choice). The correct response (key) for each question is also identified. The results presented in Table 64 can best be used in conjunction with results presented in jurisdiction, school, and instructional group reports to interpret strengths and weaknesses of local educational programs.

Questions on Part B: Reading (Multiple Choice) ranged from those that students found to be quite difficult, such as questions 48 and 74 with only 33.7% of the students answering correctly, to those that were quite easy for students, such as question 11 with 93.3% of the students answering correctly. An example of a question of average difficulty is question 18 with 63.5% of the students answering correctly.

No information is presented about questions 39 and 63 since these were dropped from the examination after a review of the examination results and item statistics.

Table 33
Langue et Littérature 30
Results for Individual Multiple-Choice Questions*

| Item | Key | Distribution of Responses (%) A | B | C | D | Item | Key | Distribution of Responses (%) A | B | C | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | A | 51.0 | 1.0 | 15.4 | 32.7 | 41 | C | 10.6 | 2.9 | 78.8 | 7.7 |
| 2 | A | 88.5 | 1.0 | 1.0 | 9.6 | 42 | D | 8.7 | 3.8 | 6.7 | 80.8 |
| 3 | B | 6.7 | 51.0 | 4.8 | 37.5 | 43 | A | 59.6 | 15.4 | 7.7 | 17.3 |
| 4 | C | 10.6 | 9.6 | 56.7 | 23.1 | 44 | C | 9.6 | 25.0 | 58.7 | 6.7 |
| 5 | B | 6.7 | 82.7 | 9.6 | 1.0 | 45 | C | 1.9 | 5.8 | 65.4 | 26.9 |
| 6 | B | 10.6 | 41.3 | 3.8 | 44.2 | 46 | B | 15.4 | 52.9 | 10.6 | 21.2 |
| 7 | D | 7.7 | 10.6 | 15.4 | 66.3 | 47 | C | 38.5 | 1.0 | 57.7 | 2.9 |
| 8 | B | 13.5 | 58.7 | 3.8 | 24.0 | 48 | C | 17.3 | 12.5 | 33.7 | 36.5 |
| 9 | D | 2.9 | 24.0 | 1.0 | 72.1 | 49 | C | 9.6 | 7.7 | 63.5 | 19.2 |
| 10 | D | 16.3 | 3.8 | 26.9 | 51.9 | 50 | D | 13.5 | 30.8 | 1.9 | 53.8 |
| 11 | D | 1.0 | 1.9 | 3.8 | 93.3 | 51 | D | 2.9 | 4.8 | 2.9 | 89.4 |
| 12 | A | 70.2 | 11.5 | 12.5 | 5.8 | 52 | D | 3.8 | 30.8 | 15.4 | 50.0 |
| 13 | D | 17.3 | 4.8 | 1.0 | 76.9 | 53 | A | 85.6 | 11.5 | 1.9 | 1.0 |
| 14 | C | 11.5 | 13.5 | 51.0 | 23.1 | 54 | B | 12.5 | 44.2 | 23.1 | 20.2 |
| 15 | D | 8.7 | 11.5 | 7.7 | 72.1 | 55 | A | 55.8 | 18.3 | 2.9 | 23.1 |
| 16 | A | 80.8 | 8.7 | 9.6 | 1.0 | 56 | C | 33.7 | 6.7 | 46.2 | 13.5 |
| 17 | A | 48.1 | 8.7 | 42.3 | 1.0 | 57 | C | 14.4 | 18.3 | 44.2 | 23.1 |
| 18 | D | 11.5 | 16.3 | 8.7 | 63.5 | 58 | C | 5.8 | 5.8 | 88.5 | 0.0 |
| 19 | B | 3.8 | 72.1 | 1.9 | 22.1 | 59 | A | 72.1 | 11.5 | 5.8 | 10.6 |
| 20 | B | 14.4 | 58.7 | 1.0 | 26.0 | 60 | D | 4.8 | 6.7 | 3.8 | 84.6 |
| 21 | A | 63.5 | 6.7 | 20.2 | 8.7 | 61 | B | 6.7 | 85.6 | 2.9 | 4.8 |
| 22 | D | 2.9 | 1.9 | 7.7 | 86.5 | 62 | B | 9.6 | 58.7 | 9.6 | 22.1 |
| 23 | A | 55.8 | 8.7 | 12.5 | 23.1 | 63 | QUESTION DELETED | | | | |
| 24 | D | 6.7 | 11.5 | 28.8 | 52.9 | 64 | A | 78.8 | 3.8 | 11.5 | 5.8 |
| 25 | A | 69.2 | 8.7 | 1.9 | 20.2 | 65 | B | 31.7 | 63.5 | 3.8 | 1.0 |
| 26 | B | 1.0 | 54.8 | 14.4 | 28.8 | 66 | D | 36.5 | 16.3 | 3.8 | 43.3 |
| 27 | A | 57.7 | 7.7 | 20.2 | 14.4 | 67 | C | 16.3 | 17.3 | 52.9 | 13.5 |
| 28 | C | 1.0 | 1.0 | 56.7 | 41.3 | 68 | C | 11.5 | 23.1 | 62.5 | 2.9 |
| 29 | D | 18.3 | 11.5 | 2.9 | 67.3 | 69 | A | 39.4 | 11.5 | 36.5 | 12.5 |
| 30 | A | 78.8 | 9.6 | 1.0 | 10.6 | 70 | B | 2.9 | 69.2 | 20.2 | 7.7 |
| 31 | A | 59.6 | 18.3 | 10.6 | 11.5 | 71 | C | 19.2 | 13.5 | 53.8 | 13.5 |
| 32 | B | 13.5 | 76.9 | 7.7 | 1.9 | 72 | B | 2.9 | 68.3 | 19.2 | 9.6 |
| 33 | D | 3.8 | 29.8 | 7.7 | 58.7 | 73 | A | 45.2 | 6.7 | 33.7 | 14.4 |
| 34 | D | 7.7 | 25.0 | 3.8 | 63.5 | 74 | A | 33.7 | 3.8 | 35.6 | 26.9 |
| 35 | C | 3.8 | 4.8 | 62.5 | 28.8 | 75 | A | 84.6 | 9.6 | 1.9 | 3.8 |
| 36 | A | 44.2 | 19.2 | 22.1 | 14.4 | 76 | C | 9.6 | 7.7 | 78.8 | 3.8 |
| 37 | B | 17.3 | 51.0 | 14.4 | 17.3 | 77 | B | 9.6 | 55.8 | 13.5 | 21.2 |
| 38 | A | 59.6 | 2.9 | 2.9 | 34.6 | 78 | D | 14.4 | 11.5 | 7.7 | 65.4 |
| 39 | QUESTION DELETED | | | | | 79 | A | 74.0 | 5.8 | 18.3 | 1.0 |
| 40 | C | 17.3 | 10.6 | 57.7 | 14.4 | 80 | D | 4.8 | 13.5 | 1.9 | 78.8 |

*The sum of the percentages for each question may be less than 100% because the No Response category is not included. This category is not greater than 1.0% for any question.

# SECTION 9:
# MATHEMATICS 30 DIPLOMA EXAMINATION RESULTS

## MATHEMATICS 30: AVERAGES AND DISTRIBUTION OF MARKS

The Mathematics 30 Diploma Examination consists of Part A, containing multiple-choice questions worth 80% of the total examination mark, and Part B, containing written response questions worth 20% of the total examination mark.

Information in all tables contained in this section is based on results achieved by 9 079 students.

Table 34 presents percentage distributions by letter grade of school-awarded marks, diploma examination marks, and final blended marks in Mathematics 30. Averages and standard deviations for these three measures are also presented.

Table 34
Mathematics 30
Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores

| Score (%) | School-Awarded Mark | Diploma Examination Mark | Final Blended Mark |
|---|---|---|---|
| A (80-100) | 24.8 | 25.2 | 24.1 |
| B (65-79) | 33.9 | 27.4 | 30.9 |
| C (50-64) | 32.7 | 24.6 | 33.8 |
| F (0-49) | 8.6 | 22.7 | 11.3 |
| Average (%) | 68.1 | 64.9 | 66.9 |
| Standard Deviation | 14.5 | 18.3 | 15.6 |

The parameters presented in Table 34 should be compared with statistics in similar tables in the jurisdiction, school, and instructional group reports as an aid in interpreting strengths and weaknesses of local educational programs. The distribution of results from the Mathematics 30 Diploma Examination and the standard deviation indicate that the examination is measuring across the full range of marks. It should be noted that 68% of the students earned marks between 47% and 83%, that is, one standard deviation above and below the average of 64.9%.

Table 35 presents averages and standard deviations for the written response and multiple-choice sections of the Mathematics 30 Diploma Examination. Averages given in Table 35 are based on raw scores, which are the number of marks obtained on each section of the examination.

The total marks possible are identified for the written response and multiple-choice sections.

Differences between the total Mathematics 30 Diploma Examination average reported in Table 34 and examination section averages reported in Table 35 are due to rounding.

Table 35
Mathematics 30
Multiple-Choice and Written Response Raw Score Totals

| Examination Section | Total Marks | Weighting (%) | Average | Standard Deviation |
|---|---|---|---|---|
| Written Response | 13 | 20 | 8.0 | 3.9 |
| Multiple Choice | 52 | 80 | 34.2 | 8.9 |

## MATHEMATICS 30: DIPLOMA EXAMINATION RESULTS

Table 36 presents the blueprint used to develop the Mathematics 30 Diploma Examination. Question numbers in brackets [ ] indicate questions included in Part B of the Mathematics 30 examination. Question numbers that are *not* enclosed in brackets indicate the multiple-choice questions included in Part A. Examination emphases (mark values) for each reporting category and cognitive level are included in the table. Classification by reporting category and cognitive level for each question is indicated.

Table 36
Mathematics 30
Diploma Examination Blueprint

| Reporting Category | Questions By Cognitive Level | | | | Examination Emphasis (%) |
|---|---|---|---|---|---|
| | Knowledge | Comprehension | Application | Higher Mental Activities | |
| Trigonometry | *7,10,12* | *8,9,11,13* | *1,2,3,4, 5,14,15* | *6,16* | 25 |
| Quadratic Relations | *23* | *17,18,19, 20,21* | *22,24 [3]* | *25* | 22 |
| Sequences, Series, Limits | *27,30* | *26,33* | *28,29,31 [2]* | *32* | 18 |
| Statistics | *35* | *34,38,39, 40,43* | *36,41,42* | *37* | 15 |
| Logarithms | | *44,46* | *47,49* | *45,48* | 9 |
| Polynomial Functions | | *50,51,52* | *[1]* | | 11 |
| Examination Emphasis (%) | 11 | 32 | 46 | 11 | 100 |

Tables 37 and 38 present the total marks possible and the provincial averages in raw scores for the subtests (reporting categories) and cognitive levels of Part A and Part B, as well as the total Mathematics 30 Diploma Examination.

The results presented in Tables 37 and 38 can best be used in conjunction with results presented in jurisdiction, school, and instructional group reports to interpret strengths and weaknesses of local educational programs.

Table 37
Mathematics 30
Raw Score Averages for Subtests (Reporting Categories)

| Subtest | Total Marks Possible | | | Raw Score Averages | | |
|---|---|---|---|---|---|---|
| | Written Response | Multiple Choice | Total | Written Response | Multiple Choice | Total |
| Trigonometry | 0 | 16 | 16 | N/A | 10.7 | 10.7 |
| Quadratic Relations | 5 | 9 | 14 | 2.2 | 5.6 | 7.8 |
| Sequences, Series, Limits | 4 | 8 | 12 | 3.0 | 5.3 | 8.3 |
| Statistics | 0 | 10 | 10 | N/A | 6.6 | 6.6 |
| Logarithms | 0 | 6 | 6 | N/A | 4.0 | 4.0 |
| Polynomial Functions | 4 | 3 | 7 | 2.8 | 2.0 | 4.8 |

Table 38
Mathematics 30
Raw Score Averages for Cognitive Levels

| Cognitive Level | Total Marks Possible | | | Raw Score Averages | | |
|---|---|---|---|---|---|---|
| | Written Response | Multiple Choice | Total | Written Response | Multiple Choice | Total |
| Knowledge | 0 | 7 | 7 | N/A | 4.7 | 4.7 |
| Comprehension | 0 | 21 | 21 | N/A | 13.9 | 13.9 |
| Application | 13 | 17 | 30 | 8.0 | 11.8 | 19.8 |
| Higher Mental Activities | 0 | 7 | 7 | N/A | 3.8 | 3.8 |

Table 39 presents the percentage of students choosing each alternative (A, B, C, and D) for each multiple-choice question on the Mathematics 30 Diploma Examination. The correct response (key) for each question is also identified. The results presented in Table 39 can best be used in conjunction with results presented in jurisdiction, school, and instructional group reports to interpret strengths and weaknesses of local educational programs.

Multiple-choice questions ranged from those that students found to be quite difficult, such as question 25 with only 30.9% of the students answering correctly, to those that were quite easy for students, such as question 44 with 92.1% of the students answering correctly. An example of a question of average difficulty is question 5 with 65.4% of the students answering correctly.

Table 39
Mathematics 30
Results for Individual Multiple-Choice Questions*

| Item | Key | Distribution of Responses (%) A | B | C | D | Item | Key | Distribution of Responses (%) A | B | C | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | A | 75.8 | 5.2 | 5.3 | 13.5 | 27 | B | 12.8 | 58.9 | 14.6 | 13.7 |
| 2 | D | 2.6 | 7.0 | 7.1 | 83.1 | 28 | D | 12.2 | 9.4 | 24.9 | 52.9 |
| 3 | B | 6.2 | 81.8 | 7.6 | 4.2 | 29 | B | 4.8 | 79.5 | 10.2 | 5.4 |
| 4 | C | 5.6 | 4.9 | 82.7 | 6.6 | 30 | C | 7.7 | 5.6 | 77.6 | 9.1 |
| 5 | D | 6.0 | 14.0 | 14.2 | 65.4 | 31 | C | 3.3 | 13.2 | 72.0 | 11.3 |
| 6 | A | 55.5 | 20.1 | 11.7 | 12.1 | 32 | C | 6.4 | 11.1 | 60.5 | 21.7 |
| 7 | A | 57.6 | 13.0 | 23.6 | 5.7 | 33 | B | 10.3 | 54.5 | 23.7 | 11.4 |
| 8 | B | 15.1 | 61.3 | 16.1 | 7.3 | 34 | A | 67.1 | 19.1 | 7.0 | 6.8 |
| 9 | D | 5.2 | 6.1 | 35.3 | 53.3 | 35 | A | 53.1 | 25.2 | 15.8 | 5.9 |
| 10 | D | 3.9 | 6.0 | 11.3 | 78.7 | 36 | A | 84.8 | 5.6 | 2.2 | 7.4 |
| 11 | A | 70.2 | 19.8 | 6.3 | 3.6 | 37 | B | 15.3 | 62.0 | 15.3 | 7.2 |
| 12 | A | 56.6 | 12.0 | 12.3 | 19.0 | 38 | B | 4.6 | 70.7 | 15.3 | 9.5 |
| 13 | B | 4.8 | 82.5 | 7.2 | 5.4 | 39 | D | 10.1 | 7.5 | 19.0 | 63.3 |
| 14 | C | 12.5 | 7.9 | 67.8 | 11.7 | 40 | C | 21.6 | 5.7 | 49.7 | 22.8 |
| 15 | D | 14.5 | 15.8 | 16.7 | 52.6 | 41 | C | 9.1 | 9.9 | 72.4 | 8.6 |
| 16 | A | 42.0 | 14.9 | 21.0 | 21.9 | 42 | A | 64.2 | 14.0 | 16.9 | 4.5 |
| 17 | A | 64.9 | 13.9 | 14.1 | 7.0 | 43 | B | 10.2 | 73.2 | 7.5 | 8.6 |
| 18 | D | 14.9 | 21.8 | 18.0 | 45.2 | 44 | C | 2.1 | 2.5 | 92.1 | 3.3 |
| 19 | B | 11.2 | 82.5 | 3.4 | 2.8 | 45 | B | 26.1 | 60.3 | 9.3 | 4.1 |
| 20 | A | 63.4 | 27.7 | 5.4 | 3.6 | 46 | C | 8.8 | 23.3 | 56.4 | 10.7 |
| 21 | C | 21.3 | 6.7 | 59.1 | 12.7 | 47 | A | 50.7 | 8.1 | 32.9 | 8.2 |
| 22 | C | 13.0 | 26.7 | 55.0 | 4.7 | 48 | B | 12.3 | 66.9 | 12.1 | 8.1 |
| 23 | A | 87.5 | 3.6 | 3.4 | 5.5 | 49 | C | 7.6 | 11.5 | 70.1 | 10.5 |
| 24 | B | 9.0 | 65.5 | 15.1 | 10.2 | 50 | D | 10.0 | 13.4 | 17.0 | 59.0 |
| 25 | B | 17.3 | 30.9 | 21.9 | 29.8 | 51 | A | 62.4 | 12.3 | 3.6 | 21.4 |
| 26 | D | 13.9 | 4.6 | 6.1 | 75.1 | 52 | A | 77.1 | 8.9 | 7.8 | 5.9 |

*The sum of the percentages for some questions is less than 100% because the No Response category is not included. This category does not exceed 0.7% for any question.

Table 40 presents the distribution of marks for each question on Part B of the Mathematics 30 Diploma Examination.

Table 40
Mathematics 30
Distribution of Marks for Written Response Questions

| Question | Percentage of Students Obtaining Each Mark | | | | | | |
|---|---|---|---|---|---|---|---|
| | NR* | 0 | 1 | 2 | 3 | 4 | 5 |
| 1 | 5.6 | 11.0 | 7.5 | 9.8 | 14.1 | 51.9 | |
| 2 | 2.9 | 12.4 | 5.9 | 7.2 | 11.9 | 59.6 | |
| 3 | 7.2 | 27.5 | 10.8 | 5.0 | 21.3 | 4.9 | 23.3 |

*No Response

Students responded reasonably well to the first two written response questions with 51.9% and 59.6% of the students, respectively, earning full marks. However, the fact that 16.6% and 15.3% of students, respectively, earned zero or did not respond provides some cause for concern. The difficulty level of question 3 was lower than expected. The marking key assigned one mark each for determining c = 4, b = 3 and, hence, a = 5. The results indicate that 34.7% of the students were unable to earn any of these marks and another 15.8% managed to earn, at most, two marks.

The teachers who marked the Mathematics 30 Diploma Examination felt that it was clear that students are still not giving their best efforts in answering some written response questions.

Table 41 presents the provincial average in raw score and the difficulty level for each question on Part B of the Mathematics 30 Diploma Examination. It must be noted that these averages *cannot* be directly compared since the questions were designed to be different in difficulty.

Table 41
Mathematics 30
Average Marks Awarded for Written Response Questions

| Question | Total Marks | Average | Difficulty Level* |
|---|---|---|---|
| 1 | 4 | 2.8 | 0.69 |
| 2 | 4 | 3.0 | 0.74 |
| 3 | 5 | 2.2 | 0.44 |

*The difficulty level is the average divided by the total marks possible.

# SECTION 10:
# BIOLOGY 30 DIPLOMA EXAMINATION RESULTS

## BIOLOGY 30: AVERAGES AND DISTRIBUTION OF MARKS

The Biology 30 Diploma Examination consists of Part A, containing multiple-choice questions worth 80% of the total examination mark, and Part B, containing written response questions worth 20% of the total examination mark.

Information in all tables contained in this section is based on the results achieved by 7 891 students.

Table 42 presents percentage distributions by letter grade of school-awarded marks, diploma examination marks, and final blended marks in Biology 30. Averages and standard deviations for these three measures are also presented.

Table 42
Biology 30
Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores

| Score (%) | School-Awarded Mark | Diploma Examination Mark | Final Blended Mark |
|---|---|---|---|
| A (80-100) | 19.4 | 21.8 | 20.4 |
| B (65-79) | 36.8 | 29.3 | 32.9 |
| C (50-64) | 37.0 | 28.2 | 36.6 |
| F (0-49) | 6.8 | 20.7 | 10.1 |
| Average (%) | 66.8 | 64.6 | 66.1 |
| Standard Deviation | 12.7 | 16.8 | 14.1 |

The parameters presented in Table 42 should be compared with statistics in similar tables in the jurisdiction, school, and instructional group reports as an aid in interpreting strengths and weaknesses of local educational programs. The distribution of results from the Biology 30 Diploma Examination and the standard deviation indicate that the examination is measuring student performance over the full range of marks. It should be noted that 68% of the students earned marks between 48% and 81%, that is, one standard deviation above and below the average of 64.6%.

Table 43 presents averages and standard deviations for the written response and multiple-choice sections of the Biology 30 Diploma Examination. Averages given in Table 43 are based on raw scores, which are the number of marks obtained on each section of the examination.

The total marks possible are identified for the written response and multiple-choice sections.

Differences between the total Biology 30 Diploma Examination average reported in Table 42 and examination section averages reported in Table 43 are due to rounding.

Table 43
Biology 30
Multiple-Choice and Written Response Raw Score Totals

| Examination Section | Total Marks | Weighting (%) | Average | Standard Deviation |
|---|---|---|---|---|
| Written Response | 20 | 20 | 11.6 | 4.0 |
| Multiple Choice | 79 | 80 | 52.2 | 13.7 |

## BIOLOGY 30: DIPLOMA EXAMINATION RESULTS

Table 44 on page 57 presents the blueprint used to develop the Biology 30 Diploma Examination. Question numbers in brackets [ ] indicate questions included in Part B of the examination. Question numbers that are *not* enclosed in brackets indicate the multiple-choice questions included in Part A.

Examination emphases (mark values) for each reporting category and cognitive level are included in the table. Classification by reporting category and cognitive level for each question is indicated.

In addition, it should be noted that those questions identified with science process skills from Part A are 4, 6, 10, 19, 27, 32, 33, 37, 38, 47, 65, 70, 71, 78, 79, and 80. Those from Part B are 2, 3, and 5. In total, science process skills received a mark value of 30 marks.

It should also be noted that question 72 from Part A was deleted from the examination because it was judged to be based on knowledge which goes beyond the content described by the *Program of Studies*.

Table 44
Biology 30
Diploma Examination Blueprint

| Reporting Category | Questions By Cognitive Level | | | Examination Emphasis (%) |
|---|---|---|---|---|
| | Knowledge | Comprehension and Application | Higher Mental Activities | |
| Cellular Processes | *1,2* | *3,4,5* *[1]* | *6* | 10 |
| Homeostatic Mechanisms | *7* | *8,9* | *10* | 4 |
| Nutrition | *11,12,13,14* *15,16,17* | *18,20* *[2]* | *19* | 16 |
| Circulation | *21,22,23,* *24,25* | *26,27,28,29,* *30,31,33* | *32* *[3]* | 19 |
| Gas Exchange | *34,35,36* | *37* *[5]* | *38* | 7 |
| Metabolism | *39,40* | | | 2 |
| Excretion | *41,42,44* | *43,45,46,47,* *48,49* | *50* | 10 |
| Nervous & Hormonal Co-ordination | *51,55,56,* *57,62,63,* *67* | *52,53,54,58,* *59,60,61,64,* *65* | *66,68* | 18 |
| Movement | *69* | *70,71* | *72** | 4 |
| Human Reproduction | *73,74,76* | *75,77,78* *[4]* | *79,80* | 10 |
| Examination Emphasis (%) | 34 | 49 | 17 | 100 |

*Question 72 was deleted from the examination because it was judged to be based on knowledge which goes beyond the content described by the *Program of Studies*.

Tables 45 and 46 present the total marks possible and the provincial averages in raw scores for the subtests (reporting categories) and cognitive levels of Part A and Part B, as well as the total Biology 30 Diploma Examination.

It is important to stress that the averages on the various reporting categories *cannot* be directly compared to one another. Rather, the results presented in Tables 45 and 46 can best be used in conjunction with results presented in jurisdiction, school, and instructional group reports to interpret strengths and weaknesses of local educational programs.

Table 45
Biology 30
Raw Score Averages for Subtests (Reporting Categories)

| Subtest | Total Marks Possible | | | Raw Score Averages | | |
|---|---|---|---|---|---|---|
| | Written Response | Multiple Choice | Total | Written Response | Multiple Choice | Total |
| Cellular Processes | 4 | 6 | 10 | 2.3 | 3.9 | 6.2 |
| Homeostatic Mechanisms | 0 | 4 | 4 | N/A | 2.5 | 2.5 |
| Nutrition | 6 | 10 | 16 | 2.7 | 6.8 | 9.5 |
| Circulation | 6 | 13 | 19 | 4.3 | 8.7 | 13.0 |
| Gas Exchange | 2 | 5 | 7 | 1.4 | 3.2 | 4.6 |
| Metabolism | 0 | 2 | 2 | N/A | 1.3 | 1.3 |
| Excretion | 0 | 10 | 10 | N/A | 6.5 | 6.5 |
| Nervous & Hormonal Co-ordination | 0 | 18 | 18 | N/A | 11.6 | 11.6 |
| Movement | 0 | 3 | 3 | N/A | 2.4 | 2.4 |
| Human Reproduction | 2 | 8 | 10 | 0.8 | 5.4 | 6.2 |
| Process Skills | 14 | 16 | 30 | 8.4 | 10.1 | 18.5 |

Table 46
Biology 30
Raw Score Averages for Cognitive Levels

| Cognitive Level | Total Marks Possible | | | Raw Score Averages | | |
|---|---|---|---|---|---|---|
| | Written Response | Multiple Choice | Total | Written Response | Multiple Choice | Total |
| Knowledge | 0 | 34 | 34 | N/A | 22.8 | 22.8 |
| Comprehension and Application | 14 | 35 | 49 | 7.2 | 23.3 | 30.5 |
| Higher Mental Activities | 6 | 10 | 16 | 4.3 | 6.1 | 10.4 |

Table 47 on page 60 presents the percentage of students choosing each alternative (A, B, C, and D) for each multiple-choice question on the Biology 30 Diploma Examination. The correct response (key) for each question is also identified. The results presented in Table 47 can best be used in conjunction with results presented in jurisdiction, school, and instructional group reports to interpret strengths and weaknesses of local educational programs.

Multiple-choice questions ranged from those that students found to be quite difficult, such as question 22 with only 44.8% of the students answering correctly, to those that were quite easy for students, such as question 77 with 89.6% of the students answering correctly. An example of a question of average difficulty is question 37 with 65.0% of the students answering correctly.

A comparison of expected and actual levels of difficulty for the multiple-choice questions suggests that students were particularly well prepared to answer questions on units IV (Body Fluids) and VII (Excretion). Questions on units II (Homeostatic Mechanisms) and V (Gas Exchange), on the other hand, proved to be more difficult.

Table 47
Biology 30
Results for Individual Multiple-Choice Questions*

| Item | Key | Distribution of Responses (%) A | B | C | D | Item | Key | Distribution of Responses (%) A | B | C | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D | 12.0 | 15.9 | 3.9 | 68.1 | 41 | C | 14.5 | 9.5 | 67.7 | 8.2 |
| 2 | D | 5.6 | 19.5 | 6.3 | 68.5 | 42 | A | 69.1 | 8.8 | 13.6 | 8.5 |
| 3 | C | 12.5 | 7.5 | 70.3 | 9.7 | 43 | B | 9.0 | 47.0 | 23.4 | 20.5 |
| 4 | A | 61.8 | 8.6 | 22.4 | 6.9 | 44 | B | 16.0 | 54.0 | 11.9 | 18.1 |
| 5 | A | 54.2 | 8.5 | 13.4 | 23.8 | 45 | B | 7.5 | 76.1 | 6.3 | 10.1 |
| 6 | B | 10.6 | 61.9 | 11.3 | 16.1 | 46 | D | 8.7 | 6.3 | 13.9 | 71.1 |
| 7 | D | 8.3 | 20.1 | 7.0 | 64.6 | 47 | D | 4.9 | 3.1 | 19.1 | 72.9 |
| 8 | D | 4.9 | 10.5 | 14.7 | 69.7 | 48 | A | 65.9 | 22.3 | 9.5 | 2.3 |
| 9 | A | 48.4 | 14.4 | 29.1 | 8.0 | 49 | A | 64.3 | 10.7 | 10.1 | 14.8 |
| 10 | C | 8.2 | 19.5 | 64.8 | 7.2 | 50 | A | 63.4 | 12.5 | 10.4 | 13.6 |
| 11 | B | 10.2 | 78.6 | 1.5 | 9.6 | 51 | C | 14.7 | 4.9 | 76.9 | 3.5 |
| 12 | D | 7.1 | 3.1 | 3.3 | 86.5 | 52 | B | 28.0 | 52.9 | 10.3 | 8.8 |
| 13 | B | 4.2 | 54.5 | 15.5 | 25.7 | 53 | C | 9.6 | 10.0 | 72.4 | 7.9 |
| 14 | A | 65.1 | 22.5 | 3.0 | 9.3 | 54 | A | 56.5 | 12.6 | 21.7 | 9.1 |
| 15 | A | 74.0 | 4.0 | 2.8 | 19.1 | 55 | B | 16.1 | 75.6 | 5.3 | 2.9 |
| 16 | C | 6.3 | 20.8 | 55.4 | 17.4 | 56 | B | 8.9 | 51.7 | 11.1 | 28.1 |
| 17 | C | 7.6 | 12.9 | 61.5 | 17.9 | 57 | A | 52.7 | 8.9 | 23.7 | 14.7 |
| 18 | C | 4.0 | 5.5 | 79.0 | 11.3 | 58 | D | 11.6 | 10.6 | 11.4 | 66.3 |
| 19 | A | 67.1 | 19.6 | 3.7 | 9.6 | 59 | B | 10.2 | 55.5 | 23.0 | 11.2 |
| 20 | D | 26.1 | 12.2 | 7.4 | 54.1 | 60 | D | 12.9 | 17.0 | 2.0 | 68.0 |
| 21 | A | 81.7 | 4.2 | 9.1 | 4.9 | 61 | C | 26.3 | 11.0 | 55.8 | 6.9 |
| 22 | A | 44.8 | 17.1 | 30.9 | 7.1 | 62 | B | 5.8 | 61.5 | 27.1 | 5.6 |
| 23 | D | 22.8 | 14.7 | 8.0 | 54.5 | 63 | A | 68.0 | 8.6 | 14.2 | 9.1 |
| 24 | D | 15.3 | 3.9 | 5.7 | 75.0 | 64 | A | 80.9 | 9.3 | 6.0 | 3.8 |
| 25 | C | 7.0 | 13.2 | 65.3 | 14.4 | 65 | B | 2.9 | 56.8 | 29.4 | 10.7 |
| 26 | C | 2.1 | 6.1 | 88.9 | 2.9 | 66 | A | 62.4 | 8.7 | 20.9 | 7.8 |
| 27 | B | 12.4 | 69.5 | 8.1 | 9.9 | 67 | B | 14.3 | 73.6 | 3.4 | 8.7 |
| 28 | D | 8.5 | 11.1 | 22.3 | 57.9 | 68 | B | 4.4 | 68.3 | 16.6 | 10.6 |
| 29 | A | 76.7 | 6.9 | 7.4 | 9.0 | 69 | D | 3.5 | 5.4 | 5.2 | 85.9 |
| 30 | C | 9.5 | 2.9 | 80.1 | 7.4 | 70 | B | 11.2 | 79.9 | 5.6 | 3.3 |
| 31 | B | 10.0 | 70.0 | 8.0 | 12.0 | 71 | D | 1.8 | 1.9 | 24.5 | 71.8 |
| 32 | C | 36.6 | 7.3 | 49.4 | 6.7 | 72 | QUESTION DELETED | | | | |
| 33 | C | 12.1 | 22.2 | 55.7 | 10.0 | 73 | B | 2.9 | 62.1 | 15.4 | 19.6 |
| 34 | D | 8.2 | 10.9 | 34.7 | 46.1 | 74 | C | 11.4 | 1.4 | 84.7 | 2.5 |
| 35 | C | 2.2 | 2.8 | 85.5 | 9.5 | 75 | C | 9.9 | 13.9 | 56.1 | 20.0 |
| 36 | A | 74.2 | 11.8 | 2.9 | 11.0 | 76 | D | 18.1 | 8.9 | 9.8 | 63.2 |
| 37 | B | 9.6 | 65.0 | 23.0 | 2.3 | 77 | D | 1.7 | 5.1 | 3.5 | 89.6 |
| 38 | D | 17.2 | 21.6 | 10.8 | 50.3 | 78 | D | 15.1 | 2.2 | 22.1 | 60.6 |
| 39 | D | 5.7 | 10.9 | 4.3 | 79.1 | 79 | A | 63.8 | 5.5 | 17.9 | 12.8 |
| 40 | C | 16.5 | 17.7 | 51.5 | 14.2 | 80 | A | 59.6 | 11.9 | 19.1 | 9.3 |

*The sum of the percentages for some questions is less than 100% because the No Response category is not included. This category does not exceed 0.3% for any question.

Table 48 presents the distribution of marks for each question on Part B of the Biology 30 Diploma Examination.

Table 48
Biology 30
Distribution of Marks for Written Response Questions

| Question | Percentage of Students Obtaining Each Mark | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | NR* | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 1.8 | 22.6 | 10.3 | 13.5 | 14.5 | 37.3 | | |
| 2 | 0.8 | 2.8 | 16.5 | 32.6 | 23.8 | 9.9 | 6.0 | 7.6 |
| 3 | 1.5 | 3.8 | 3.0 | 9.7 | 7.9 | 24.3 | 11.3 | 38.5 |
| 4 | 2.3 | 44.3 | 22.5 | 31.0 | | | | |
| 5 | 1.2 | 25.4 | 7.9 | 65.5 | | | | |

*No Response

The written response questions were reasonably well answered, but some areas of concern emerged from the marking. The proportion of students who did not answer or received zero were quite high for questions 1, 4, and 5, which may indicate that many students were not prepared to discuss the process of active transport, to explain the dual role of the human testes, or to predict the effect of increased $CO_2$ concentration upon breathing rates. On the other hand, questions 2 and 3 were attempted by almost all students, suggesting that students were prepared to deal with experimental data.

Table 49 presents the provincial average in raw score and the difficulty level for each question on Part B of the Biology 30 Diploma Examination. It must be noted that these averages *cannot* be directly compared since the questions were designed to be different in difficulty.

Most students took seriously the directive to compose complete written response answers. Additional attention must be given, however, to the precise use of specialized words (i.e. names of structures and processes).

Table 49
Biology 30
Average Marks Awarded for Written Response Questions

| Question | Total Marks | Average | Difficulty Level* |
|---|---|---|---|
| 1 | 4 | 2.3 | 0.57 |
| 2 | 6 | 2.7 | 0.45 |
| 3 | 6 | 4.3 | 0.72 |
| 4 | 2 | 0.8 | 0.42 |
| 5 | 2 | 1.4 | 0.69 |

*The difficulty level is the average divided by the total marks possible.

# SECTION 11:
# CHEMISTRY 30 DIPLOMA EXAMINATION RESULTS

## CHEMISTRY 30: AVERAGES AND DISTRIBUTION OF MARKS

The Chemistry 30 Diploma Examination consists of Part A, containing multiple-choice questions worth 80% of the total examination mark, and Part B, containing written response questions worth 20% of the total examination mark.

Information in all tables contained in this section is based on results achieved by 6 731 students.

Table 50 presents percentage distributions by letter grade of school-awarded marks, diploma examination marks, and final blended marks in Chemistry 30. Averages and standard deviations for these three measures are also presented.

Table 50
Chemistry 30
Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores

| Score (%) | School-Awarded Mark | Diploma Examination Mark | Final Blended Mark |
|---|---|---|---|
| A (80-100) | 22.2 | 15.6 | 16.9 |
| B (65-79) | 36.5 | 26.5 | 33.9 |
| C (50-64) | 33.5 | 34.0 | 38.0 |
| F (0-49) | 7.7 | 23.9 | 11.2 |
| Average (%) | 67.7 | 61.8 | 65.1 |
| Standard Deviation | 13.4 | 16.0 | 13.9 |

The parameters presented in Table 50 should be compared with statistics in similar tables in the jurisdiction, school, and instructional group reports as an aid in interpreting strengths and weaknesses of local educational programs. The distribution of marks from the Chemistry 30 Diploma Examination and the standard deviation indicate that the examination is measuring across the full range of marks. It should be noted that 68% of the students earned marks between 46% and 78%, that is, one standard deviation above and below the average of 61.8%.

Table 51 presents averages and standard deviations for the written response and multiple-choice sections of the Chemistry 30 Diploma Examination. Averages given in Table 35 are based on raw scores, which are the number of marks obtained on each section of the examination.

The total marks possible are identified for the written response and multiple-choice sections.

Differences between the total Chemistry 30 Diploma Examination average reported in Table 50 and examination section averages reported in Table 51 are due to rounding.

Table 51
Chemistry 30
Multiple-Choice and Written Response Raw Score Totals

| Examination Section | Total Marks | Weighting (%) | Average | Standard Deviation |
|---|---|---|---|---|
| Written Response | 14 | 20 | 5.9 | 3.4 |
| Multiple Choice | 56 | 80 | 37.3 | 8.8 |

## CHEMISTRY 30: DIPLOMA EXAMINATION RESULTS

Table 52 presents the blueprint used to develop the Chemistry 30 Diploma Examination. Question numbers in brackets [ ] indicate questions included in Part B of the Chemistry 30 examination. Question numbers that are *not* enclosed in brackets indicate the multiple-choice questions included in Part A. Examination emphases (mark values) for each reporting category and cognitive level are included in the table. Classification by reporting category and cognitive level for each question is indicated.

In addition, it should be noted that those questions identified with science process skills from Part A are 1, 3, 7, 9, 10, 12, 13, 14, 18, 19, 22, 26, 27, 28, 29, 32, 33, 34, 36, 37, 39, 44, 45, 47, 49, 50, 52, and 55. Those from Part B are 2 and 3. In total, science process skills received a mark value of 37 marks.

Table 52
Chemistry 30
Diploma Examination Blueprint

| Reporting Category | Questions By Cognitive Level | | | Examination Emphasis (%) |
|---|---|---|---|---|
| | Knowledge | Comprehension and Application | Higher Mental Activities | |
| Chemical Energetics | *2,3,4,6,10 11,17* | *1,5,7,8,13, 15,16,18 [1]* | *9,12,14* | 33 |
| Acids and Bases | *19,20,21,22, 25,31* | *23,24,27,28, 29,30,32,33, 34,35,37* | *26,36 [2]* | 34 |
| Oxidation-Reduction | *38,40,52,53, 54,56* | *39,41,42,43, 44,45,46,48, 49,50,51 [3]* | *47,55* | 33 |
| Examination Emphasis (%) | 27 | 56 | 17 | 100 |

Tables 53 and 54 present the total marks possible and the provincial averages in raw scores for the subtests (reporting categories) and cognitive levels of Part A and Part B, as well as the total Chemistry 30 Diploma Examination.

The results presented in Tables 53 and 54 can best be used in conjunction with results presented in jurisdiction, school, and instructional group reports to interpret strengths and weaknesses of local educational programs.

Table 53
Chemistry 30
Raw Score Averages for Subtests (Reporting Categories)

| Subtest | Total Marks Possible | | | Raw Score Averages | | |
|---|---|---|---|---|---|---|
| | Written Response | Multiple Choice | Total | Written Response | Multiple Choice | Total |
| Chemical Energetics | 5 | 18 | 23 | 2.4 | 12.1 | 14.5 |
| Acids and Bases | 5 | 19 | 24 | 2.0 | 12.6 | 14.6 |
| Oxidation-Reduction | 4 | 19 | 23 | 1.6 | 12.6 | 14.2 |
| Process Skills | 9 | 28 | 37 | 3.6 | 18.0 | 21.5 |

Table 54
Chemistry 30
Raw Score Averages for Cognitive Levels

| Cognitive Level | Total Marks Possible | | | Raw Score Averages | | |
|---|---|---|---|---|---|---|
| | Written Response | Multiple Choice | Total | Written Response | Multiple Choice | Total |
| Knowledge | 0 | 19 | 19 | N/A | 13.4 | 13.4 |
| Comprehension and Application | 9 | 30 | 39 | 4.0 | 19.9 | 23.8 |
| Higher Mental Activities | 5 | 7 | 12 | 2.0 | 4.0 | 5.9 |

Table 55 presents the percentage of students choosing each alternative (A, B, C, and D) for each multiple-choice question on the Chemistry 30 Diploma Examination. The correct response (key) for each question is also identified. The results presented in Table 55 can best be used in conjunction with results presented in jurisdiction, school, and instructional group reports to interpret strengths and weaknesses of local educational programs.

Multiple-choice questions ranged from those that students found to be quite difficult, such as question 36 with only 38.8% of the students answering correctly, to those that were quite easy for students, such as question 6 with 89.6% of the students answering correctly. An example of a question of average difficulty is question 50 with 65.6% of the students answering correctly.

Table 55
Chemistry 30
Results for Individual Multiple-Choice Questions*

| Item | Key | Distribution of Responses (%) A | B | C | D | Item | Key | Distribution of Responses (%) A | B | C | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D | 13.5 | 4.7 | 15.0 | 66.8 | 29 | A | 80.5 | 5.9 | 7.7 | 5.9 |
| 2 | C | 8.6 | 11.4 | 69.2 | 10.8 | 30 | A | 64.2 | 11.1 | 9.5 | 15.2 |
| 3 | B | 26.2 | 62.3 | 8.8 | 2.6 | 31 | D | 3.0 | 1.9 | 35.8 | 59.2 |
| 4 | A | 73.5 | 12.5 | 10.8 | 3.2 | 32 | C | 5.3 | 3.8 | 81.9 | 9.0 |
| 5 | B | 11.5 | 74.5 | 10.9 | 3.0 | 33 | B | 4.3 | 67.3 | 12.3 | 16.0 |
| 6 | A | 89.6 | 7.7 | 0.5 | 2.2 | 34 | C | 23.7 | 5.6 | 41.3 | 29.2 |
| 7 | B | 2.0 | 87.0 | 3.4 | 7.5 | 35 | C | 8.4 | 5.9 | 76.3 | 9.3 |
| 8 | A | 65.8 | 6.1 | 14.8 | 13.2 | 36 | C | 16.8 | 30.7 | 38.8 | 13.1 |
| 9 | D | 19.4 | 22.5 | 9.5 | 48.5 | 37 | C | 6.4 | 48.8 | 39.5 | 5.2 |
| 10 | C | 3.1 | 21.7 | 71.9 | 3.3 | 38 | B | 8.7 | 75.9 | 3.9 | 11.5 |
| 11 | D | 14.2 | 8.1 | 19.7 | 58.0 | 39 | B | 5.0 | 62.9 | 14.6 | 17.4 |
| 12 | A | 66.3 | 18.7 | 7.6 | 7.4 | 40 | A | 78.0 | 5.7 | 6.9 | 9.4 |
| 13 | D | 2.8 | 8.0 | 17.0 | 71.8 | 41 | B | 3.2 | 69.6 | 5.0 | 22.2 |
| 14 | B | 14.0 | 57.5 | 9.7 | 18.6 | 42 | A | 49.7 | 19.2 | 15.9 | 15.0 |
| 15 | A | 65.8 | 17.8 | 11.7 | 4.6 | 43 | A | 48.2 | 23.6 | 11.8 | 16.2 |
| 16 | C | 9.4 | 7.7 | 54.4 | 28.1 | 44 | D | 9.7 | 25.3 | 23.3 | 41.1 |
| 17 | B | 9.4 | 64.3 | 20.4 | 5.9 | 45 | C | 31.1 | 7.5 | 58.0 | 3.2 |
| 18 | D | 32.6 | 4.0 | 2.1 | 61.3 | 46 | D | 6.0 | 6.6 | 7.5 | 79.7 |
| 19 | C | 5.3 | 8.1 | 82.1 | 4.5 | 47 | C | 11.0 | 39.1 | 46.0 | 3.8 |
| 20 | A | 70.8 | 7.0 | 12.4 | 9.8 | 48 | B | 7.9 | 86.8 | 2.2 | 3.0 |
| 21 | D | 28.7 | 7.2 | 6.2 | 57.8 | 49 | B | 5.6 | 81.1 | 7.8 | 5.3 |
| 22 | D | 1.4 | 2.9 | 15.3 | 80.3 | 50 | D | 7.5 | 8.3 | 18.3 | 65.6 |
| 23 | B | 19.4 | 71.1 | 2.7 | 6.8 | 51 | D | 6.2 | 10.4 | 7.6 | 75.6 |
| 24 | C | 7.7 | 5.0 | 79.4 | 7.8 | 52 | A | 80.7 | 6.7 | 4.2 | 8.3 |
| 25 | D | 5.8 | 6.5 | 6.4 | 81.2 | 53 | A | 60.0 | 2.3 | 2.6 | 35.0 |
| 26 | B | 12.3 | 75.1 | 4.3 | 8.2 | 54 | C | 7.0 | 9.1 | 68.3 | 15.5 |
| 27 | C | 13.4 | 10.4 | 68.3 | 7.8 | 55 | A | 66.3 | 12.5 | 19.1 | 1.9 |
| 28 | C | 37.2 | 4.2 | 46.0 | 12.4 | 56 | D | 11.9 | 19.4 | 7.9 | 60.6 |

*The sum of the percentages for some questions is less than 100% because the No Response category is not included. This category does not exceed 0.6% for any question.

Table 56 presents the distribution of marks for each question on Part B of the Chemistry 30 Diploma Examination.

Table 56
Chemistry 30
Distribution of Marks for Written Response Questions

| Question | Percentage of Students Obtaining Each Mark | | | | | | |
|---|---|---|---|---|---|---|---|
| | NR* | 0 | 1 | 2 | 3 | 4 | 5 |
| 1 | 2.6 | 6.4 | 21.7 | 26.4 | 19.2 | 15.6 | 8.2 |
| 2 | 8.3 | 27.1 | 14.8 | 9.9 | 15.0 | 9.9 | 15.1 |
| 3 | 2.3 | 32.2 | 5.4 | 37.7 | 9.9 | 12.5 | |

*No Response

Question 1 was answered by most students, but only 8.2% of the students earned full marks. On the other hand, 35.4% of the students did not attempt question 2 or received zero while 15.1% received full marks. Question 2 asked students to describe an experimental procedure to identify four unknown 0.1 mol/L solutions. In addition, 34.5% of the students received zero or declined to respond to question 3 which asked students to explain an electrolytic cell. Students who attempted questions 2 and 3 did quite well, however.

Table 57 presents the provincial average in raw score and the difficulty level for each question on Part B of the Chemistry 30 Diploma Examination.

Table 57
Chemistry 30
Average Marks Awarded for Written Response Questions

| Question | Total Marks | Average | Difficulty Level* |
|---|---|---|---|
| 1 | 5 | 2.4 | 0.47 |
| 2 | 5 | 2.0 | 0.39 |
| 3 | 4 | 1.6 | 0.40 |

*The difficulty level is the average divided by the total marks possible.

# SECTION 12:
# PHYSICS 30 DIPLOMA EXAMINATION RESULTS

## PHYSICS 30: AVERAGES AND DISTRIBUTION OF MARKS

The Physics 30 Diploma Examination consists of Part A, containing multiple-choice questions worth 80% of the total examination mark, and Part B, containing written response questions worth 20% of the total examination mark.

Information in all tables contained in this section is based on the results achieved by 3 180 students.

Table 58 presents percentage distributions by letter grade of school-awarded marks, diploma examination marks, and final blended marks in Physics 30. Averages and standard deviations for these three measures are also presented.

Table 58
Physics 30
Provincial Percentage Distribution of A, B, C, and F Grades, Averages, and Standard Deviations of Scores

| Score (%) | School-Awarded Mark | Diploma Examination Mark | Final Blended Mark |
|---|---|---|---|
| A (80-100) | 26.0 | 25.0 | 24.7 |
| B (65-79) | 39.9 | 30.0 | 35.8 |
| C (50-64) | 28.2 | 26.6 | 31.3 |
| F (0-49) | 5.9 | 18.3 | 8.2 |
| Average (%) | 69.5 | 65.8 | 68.1 |
| Standard Deviation | 13.0 | 16.8 | 14.1 |

The parameters presented in Table 58 should be compared with the statistics in similar tables in the jurisdiction, school, and instructional group reports as an aid in interpreting strengths and weaknesses of local educational programs. The distribution of marks from the Physics 30 Diploma Examination and the standard deviation indicate that the examination is measuring across the full range of marks. It should be noted that 68% of the students earned marks between 49% and 83%, that is, one standard deviation above and below the mean of 65.8%.

Table 59 presents averages and standard deviations for the written response and multiple-choice sections of the Physics 30 Diploma Examination. Averages given in Table 59 are based on raw scores, which are the number of marks obtained on each section of the examination.

The total marks possible are identified for the written response and multiple-choice sections.

Differences between the total Physics 30 Diploma Examination average reported in Table 58 and examination section averages reported in Table 59 are due to rounding.

Table 59
Physics 30
Multiple-Choice and Written Response Raw Score Totals

| Examination Section | Total Marks | Weighting (%) | Average | Standard Deviation |
|---|---|---|---|---|
| Written Response | 14 | 20 | 7.7 | 3.8 |
| Multiple Choice | 56 | 80 | 38.3 | 8.6 |

## PHYSICS 30: DIPLOMA EXAMINATION RESULTS

Table 60 presents the blueprint used to develop the Physics 30 Diploma Examination. Question numbers in brackets [ ] indicate questions included in Part B of the Physics 30 examination. Question numbers that are *not* enclosed in brackets indicate the multiple-choice questions included in Part A. Examination emphases (mark values) for each reporting category and cognitive level are included in the table. Classification by reporting category and cognitive level for each question is indicated.

In addition, it should be noted that those questions identified with science process skills from Part A are 6, 7, 9, 19, 24, 27, 28, 33, 35, 38, 42, 43, 45, 47, and 54. Those from Part B are 1, 2, and 3. In total, science process skills received a mark value of 29 marks.

Table 60
Physics 30
Diploma Examination Blueprint

| Reporting Category | Questions By Cognitive Level | | | Examination Emphasis (%) |
|---|---|---|---|---|
| | Knowledge | Comprehension and Application | Higher Mental Activities | |
| Light | *1,3,4,11* | *2,5,6,8,10 [1]* | *7,9* | 23 |
| Electric and Magnetic Fields | *12,14,15,16 17,22,23* | *13,18,20, 21,25,26, [2]* | *19,24* | 27 |
| EM Radiation | *29,31,32, 34,36* | *27,30,33, 35,37* | *28* | 16 |
| Structure of Matter | *40,41,44* | *38,39,42, 45,46* | *43 [3]* | 20 |
| Modern Physical Theories | *49,53,55, 56* | *47,48,50, 51,52* | *54* | 14 |
| Examination Emphasis (%) | 33 | 50 | 17 | 100 |

Tables 61 and 62 present the total marks possible and the provincial averages in raw scores for the subtests (reporting categories) and cognitive levels of Part A and Part B, as well as the total Physics 30 Diploma Examination.

The results presented in Tables 61 and 62 can best be used in conjunction with results presented in jurisdiction, school, and instructional group reports to interpret strengths and weaknesses of local educational programs.

Table 61
Physics 30
Raw Score Averages for Subtests (Reporting Categories)

| Subtest | Total Marks Possible | | | Raw Score Averages | | |
|---|---|---|---|---|---|---|
| | Written Response | Multiple Choice | Total | Written Response | Multiple Choice | Total |
| Light | 5 | 11 | 16 | 3.4 | 7.4 | 10.8 |
| Electric and Magnetic Fields | 4 | 15 | 19 | 1.6 | 10.3 | 11.9 |
| EM Radiation | 0 | 11 | 11 | N/A | 7.4 | 7.4 |
| Structure of Matter | 5 | 9 | 14 | 2.7 | 6.0 | 8.7 |
| Modern Physical Theories | 0 | 10 | 10 | N/A | 7.2 | 7.2 |
| Process Skills | 14 | 15 | 29 | 7.7 | 9.3 | 16.9 |

Table 62
Physics 30
Raw Score Averages for Cognitive Levels

| Cognitive Level | Total Marks Possible | | | Raw Score Averages | | |
|---|---|---|---|---|---|---|
| | Written Response | Multiple Choice | Total | Written Response | Multiple Choice | Total |
| Knowledge | 0 | 23 | 23 | N/A | 15.5 | 15.5 |
| Comprehension and Application | 9 | 26 | 35 | 4.9 | 19.2 | 24.1 |
| Higher Mental Activities | 5 | 7 | 12 | 2.7 | 3.6 | 6.4 |

Table 63 presents the percentage of students choosing each alternative (A, B, C, and D) for each multiple-choice question on the Physics 30 Diploma Examination. The correct response (key) for each question is also identified.

Multiple-choice questions ranged from those that students found to be quite difficult, such as question 43 with only 37.4% of the students answering correctly, to those that were quite easy for students, such as question 2 with 95.4% of the students answering correctly. An example of a question of average difficulty is question 17 with 65.4% of the students answering correctly.

Table 63
Physics 30
Results for Individual Multiple-Choice Questions*

| Item | Key | Distribution of Responses (%) A | B | C | D | Item | Key | Distribution of Responses (%) A | B | C | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | B | 6.8 | 77.9 | 3.0 | 12.2 | 29 | D | 4.6 | 26.2 | 15.7 | 53.4 |
| 2 | B | 1.8 | 95.4 | 0.5 | 2.4 | 30 | C | 3.4 | 30.7 | 56.4 | 9.5 |
| 3 | B | 4.9 | 45.9 | 16.3 | 32.8 | 31 | B | 11.3 | 76.2 | 3.9 | 8.5 |
| 4 | C | 4.7 | 9.7 | 76.6 | 8.8 | 32 | A | 85.0 | 4.9 | 4.0 | 6.1 |
| 5 | B | 10.1 | 62.0 | 13.6 | 14.2 | 33 | A | 77.1 | 4.6 | 12.0 | 6.2 |
| 6 | C | 3.9 | 33.5 | 42.4 | 20.2 | 34 | C | 8.6 | 6.8 | 70.4 | 14.1 |
| 7 | B | 15.9 | 74.0 | 6.0 | 3.8 | 35 | B | 6.3 | 67.3 | 19.2 | 7.2 |
| 8 | A | 75.1 | 2.3 | 20.5 | 2.1 | 36 | B | 6.9 | 74.4 | 4.5 | 14.3 |
| 9 | D | 6.7 | 12.8 | 41.4 | 38.9 | 37 | D | 7.9 | 40.5 | 4.7 | 47.0 |
| 10 | A | 72.2 | 7.0 | 14.7 | 6.2 | 38 | D | 1.5 | 9.8 | 6.2 | 82.4 |
| 11 | B | 1.4 | 77.1 | 11.4 | 10.1 | 39 | A | 78.6 | 10.8 | 7.6 | 2.8 |
| 12 | A | 48.9 | 36.7 | 5.4 | 8.9 | 40 | D | 4.9 | 30.1 | 15.9 | 49.0 |
| 13 | B | 0.9 | 82.5 | 13.9 | 2.7 | 41 | A | 77.5 | 3.2 | 16.3 | 2.9 |
| 14 | B | 3.6 | 87.9 | 6.9 | 1.5 | 42 | C | 10.3 | 17.4 | 64.4 | 7.6 |
| 15 | B | 4.2 | 71.1 | 18.7 | 5.9 | 43 | A | 37.4 | 7.9 | 36.3 | 18.2 |
| 16 | D | 6.4 | 9.0 | 12.2 | 72.3 | 44 | C | 4.1 | 4.9 | 77.6 | 13.4 |
| 17 | A | 65.4 | 12.5 | 9.4 | 12.7 | 45 | D | 21.4 | 9.3 | 6.7 | 62.4 |
| 18 | D | 5.7 | 8.4 | 7.2 | 78.3 | 46 | B | 5.1 | 70.6 | 21.4 | 2.6 |
| 19 | C | 17.4 | 6.6 | 61.7 | 14.3 | 47 | B | 10.3 | 74.0 | 8.2 | 7.1 |
| 20 | D | 0.8 | 2.6 | 6.7 | 89.9 | 48 | B | 11.1 | 73.3 | 12.4 | 3.1 |
| 21 | D | 6.7 | 7.6 | 2.3 | 83.4 | 49 | C | 14.4 | 13.3 | 60.1 | 12.1 |
| 22 | A | 53.2 | 10.0 | 33.8 | 2.9 | 50 | C | 5.3 | 6.2 | 83.0 | 5.3 |
| 23 | D | 12.5 | 19.5 | 14.4 | 53.4 | 51 | D | 4.5 | 6.7 | 10.0 | 78.6 |
| 24 | A | 38.0 | 15.5 | 16.2 | 30.3 | 52 | B | 5.7 | 83.9 | 3.2 | 7.0 |
| 25 | C | 19.8 | 18.6 | 48.8 | 12.7 | 53 | D | 7.8 | 23.4 | 5.4 | 63.3 |
| 26 | C | 3.9 | 1.5 | 92.9 | 1.7 | 54 | C | 12.3 | 11.5 | 70.5 | 5.2 |
| 27 | A | 89.5 | 1.3 | 5.5 | 3.6 | 55 | B | 3.3 | 61.8 | 10.6 | 24.2 |
| 28 | A | 43.5 | 14.8 | 13.6 | 27.9 | 56 | C | 8.0 | 3.5 | 73.3 | 15.1 |

*The sum of the percentages for some questions is less than 100% because the No Response category is not included. This category does not exceed 0.5% for any question.

Table 64 presents the distribution of marks for each question on Part B of the Physics 30 Diploma Examination.

Table 64
Physics 30
Distribution of Marks for Written Response Questions

| Question | Percentage of Students Obtaining Each Mark | | | | | | |
|---|---|---|---|---|---|---|---|
| | NR* | 0 | 1 | 2 | 3 | 4 | 5 |
| 1 | 3.6 | 10.3 | 9.1 | 7.7 | 8.9 | 16.3 | 44.1 |
| 2 | 3.1 | 15.4 | 28.9 | 33.7 | 15.9 | 2.9 | |
| 3 | 2.6 | 14.6 | 10.2 | 13.1 | 13.8 | 34.3 | 11.4 |

*No Response

To take question number 1 as an example, 3.6% of the students did not respond to the question, and 10.3% were awarded no marks for their responses. The percentage of students receiving one mark out of five was 9.1%, and 44.1% received full marks (five out of five) for their responses.

Table 65 presents the provincial average in raw score and the difficulty level for each question on Part B of the Physics 30 Diploma Examination. It must be noted that these averages *cannot* be directly compared since the questions were designed to be different in difficulty.

Table 65
Physics 30
Average Marks Awarded for Written Response Questions

| Question | Total Marks | Average | Difficulty Level* |
|---|---|---|---|
| 1 | 5 | 3.4 | 0.67 |
| 2 | 4 | 1.6 | 0.39 |
| 3 | 5 | 2.7 | 0.54 |

*The difficulty level is the average divided by the total marks possible.

Student performance on the Physics 30 examination was generally satisfactory.

Performance in numerical computation was excellent, as evidenced by the results of multiple-choice question number 7 (74.0% answering correctly), multiple-choice question number 54 (70.5% answering correctly), and written response question number 1 (average mark 3.4 out of 5). These three questions all involved multi-step calculations, and all were done very well.

On the purely numerical multiple-choice questions, the provincial average was 79.9%, compared to the 61.1% average on the non-numerical multiple-choice questions.

Two areas of concern surfaced during the scoring of the Physics 30 Diploma Examination.

The first was the acceptance of numerical answers that were off by factors of millions or billions from the keyed answer. As an example, in written response question number 3, the most common wrong answer had a calculated velocity of $3.05 \times 10^{25}$ m/s and a radius of $8.45 \times 10^{16}$ m for an electron confined to a cathode ray tube. A simple visualization of a cathode ray tube would have served as a check on the answer, since all questions are intended to have answers that are consistent with values obtainable in the laboratory, or values incorporated into technological designs.

The second area of concern was the relatively low performance of students on basic knowledge questions, as shown in the results for multiple-choice question number 12 (48.9% answering correctly) and multiple-choice question number 17 (65.4% answering correctly). Multiple-choice question number 12 asked for a restatement of the law of conservation of charge, and multiple-choice question number 17 asked for the definition of electric field direction.

Both questions called for lower level skills than did many of the calculation questions, but the results showed less mastery than did the results of the calculations.

# DIPLOMA EXAMINATIONS PROGRAM
# PROVINCIAL REPORT
# QUESTIONNAIRE

It is the intention of the Student Evaluation and Records Branch to produce documents that will be useful to teachers and administrators. The purpose of the following questionnaire is to garner your opinions about the *Provincial Report* so that these opinions can be considered when the content and format of the report are reviewed prior to January 1989.

Please take a moment to respond to the following questions. Then detach this sheet and send it to:

Mr. Michael Robinson
Assistant Director, Data Analysis and
Student Records Services
Student Evaluation and Records Branch
Alberta Education
11160 Jasper Avenue
Edmonton, Alberta T5K 0L2

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## USE OF THE REPORT

1. My present role is primarily that of

   - teacher ☐ 1
   - school administrator ☐ 2
   - central office administrator ☐ 3
   - school board member ☐ 4
   - other (please specify)_____

2. (Please check the box beside the statement that applies to you.)

   I read the report, but I DID NOT use it to interpret the results attained by students. ☐ 5

   I read the report, and I used it to interpret the results attained by the students in

   - my classroom ☐ 6
   - my school ☐ 7
   - my jurisdiction ☐ 8

3. (Please respond to the following statement if you have checked boxes 6, 7, or 8 above.)

   I have made use of the results to alter the educational program offered in

   - my classroom ☐ 9
   - my school ☐ 10
   - my jurisdiction ☐ 11

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## CONTENT OF THE REPORT

1. (Please judge the usefulness of the information included in the various sections of the report by checking the appropriate boxes below.)

| | Very Useful | Adequate for Use | Of Some Use | Of No Use |
|---|---|---|---|---|
| Section 2: Grade 12 Diploma Examinations Program | ☐ 12 | ☐ 13 | ☐ 14 | ☐ 15 |
| Section 3: Guidelines for Interpreting the Results of the Diploma Examinations | ☐ 16 | ☐ 17 | ☐ 18 | ☐ 19 |
| Section 4: Summary of Results | ☐ 20 | ☐ 21 | ☐ 22 | ☐ 23 |
| Sections 5-12: Specific Diploma Examination Results | ☐ 24 | ☐ 25 | ☐ 26 | ☐ 27 |

2. (If you wish, please comment further on the content of the report in the space below.)

## FORMAT OF THE REPORT

1. (Please judge the usefulness of the report's format by checking the appropriate boxes below.)

| | Very Useful | Adequate for Use | Of Some Use | Of No Use |
|---|---|---|---|---|
| Organization into Separate Sections | ☐ 28 | ☐ 29 | ☐ 30 | ☐ 31 |
| Double-Column Presentation of Text | ☐ 32 | ☐ 33 | ☐ 34 | ☐ 35 |
| Presentation of Tables | ☐ 36 | ☐ 37 | ☐ 38 | ☐ 39 |
| Blending of Information through Text and Tables | ☐ 40 | ☐ 41 | ☐ 42 | ☐ 43 |

2. (If you wish, please comment further on the format of the report in the space below.)